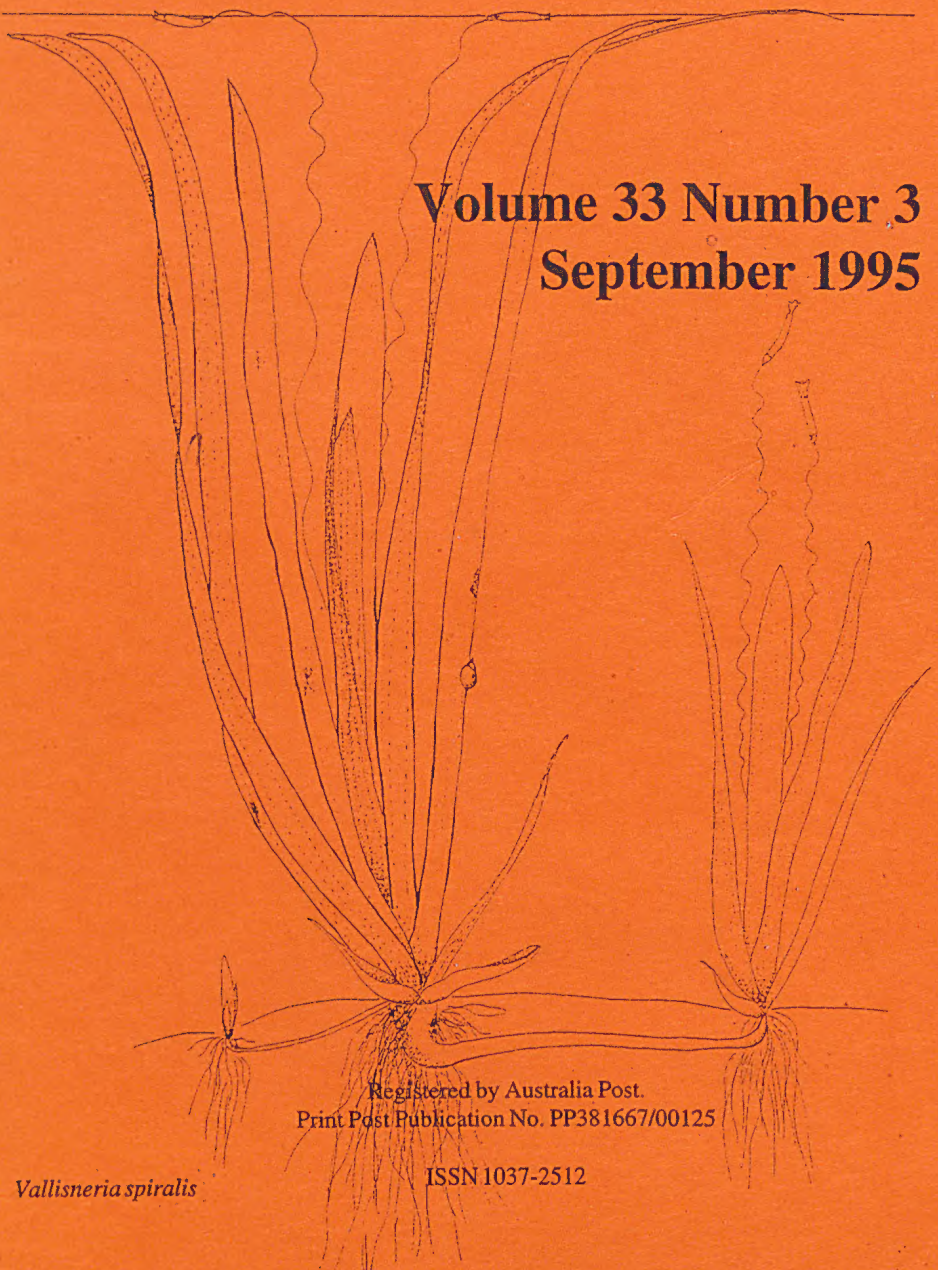
Australian Society for Limnology Inc.

NEWSLETTER

Volume 33 Number 3
September 1995



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AUSTRALIAN SOCIETY FOR LIMNOLOGY INC.

The Australian Society for Limnology Inc. (ASL) is an association of over 500 people with professional or amateur interests related to Australian inland waters. Since its inception in 1961, the society has played an important role in fostering limnology in this country. The ASL promotes liaison between limnologists in academic, government and private institutions and has a vested interest in the conservation of aquatic and related resources. Annual conferences are held near centres of limnological interest, and the programme includes scientific sessions, field excursions and social activities.

The ASL regularly produces a newsletter with notes on limnological activities, articles of interest, book reviews and announcements of upcoming events likely to be of interest to Members.

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CONTENTS

Contents 1
Editorial 2
From the President 3
Prattlebut, Scumour and Ruttle 5
Postcard from the Sedge 20
5 Limnos Tour South America 20
60 Minutes 23
ASL Executive Teleconference - 28 July 1995 23
Executive meeting - Jenolan Caves, 20/9/95 24
24th Annual General Meeting of the ASL 25
Jenolan Caves Conference 1995 31
Outgoing President's Report 1994-1995. 31
Student Prize Report 34
Door Prize Report 36
List of Conference Papers 38
Jolly Award Report 1995 48
Articles 49
FASTS, Issues for Limnology, and Contact Personnel 49
Wetland Policy for the Australian Government 51
Will we ever learn? - Cotton Irrigation moves into the Lake Eyre Basin 53
Announcements 55
News from FASTS 56
Conference Reports 57
SIL 1994 - São Paulo Brazil 57
Conference Capers 60
ASL Volunteers 66
Regional Executive Members 1995-96 69
Editorial Address 69

Material for publication in the December 1995 Issue of the Newsletter should be sent to the Editor (see back pages) before **31st December 1995**.

Long articles should be forwarded as unformatted text on a disk or to the editor via email.

Cover design by Stuart Blanch, Department of Zoology, University of Adelaide.

EDITORIAL

Another ASL Issue flies past. Thanks to Jane Growns and her team of conference organisers for a fantastic time at Jenolan Caves, great to see everyone there and hope you all make it to Berri in 1996. In this Issue we have published a complete list of the oral papers presented at the Conference; for those ASLers who didn't make it the book of Abstracts is available for a small price from Jane (see Jenolan Caves section).

After recently being involved in a panel assessment of environmental flow requirements for the Barwon-Darling river system it disturbs me to read the article "*Will we ever learn? - Cotton Irrigation moves into the Lake Eyre Basin*". If reasonable management options for environmental flows are established for the Barwon-Darling it will be mainly because we have long-term flow data for numerous gauging stations along with the ability to model natural flow patterns. This is a necessity, but unfortunately a luxury. The Cooper is mostly ungauged, with very little flow data available - how will we be able to manage water abstractions? While much of our effort is being focussed on those aquatic systems that have been vastly modified through water resource development we must not forget our few remaining undisturbed (and undeveloped) systems. If development must take place then we must do it properly along with sustainable flow management plans, and prevent the devastation we are witnessing in the Murray-Darling Basin.

Remember, keep sending in those Articles, Letters, Postcards from the Sedge, Gossip - what you contribute is what you get.

DEADLINES FOR THE NEWSLETTER IN 1995-96

The following are the deadlines for the remaining issue of ASL Newsletter Volume 33 (1995) and for Volume 34 (1996)

Volume	Deadline
Volume 33	
December 1995, *No 4*	31st December 1995
Volume 34	
March 1996, *No 1*	31st March 1996
June 1996, *No 2*	30th June 1996
September 1996, *No.3*	30th September 1996
December 1996, *No 4*	31st December 1996

FROM THE PRESIDENT

Our Society is changing, and it's changing quickly and perhaps inexorably. These changes are brought about by both

- external forces impinging upon us, and
- the desire for the ASL to develop a higher political profile.

I can think of a number of external forces that now influence the ASL:

- the current "debate", as raised by Peter Cullen at the AGM, on the distribution of water among various end uses, and especially for environmental water allocations;
- the drafting of a Commonwealth Wetlands Policy by the Australian Nature Conservation Agency (ANCA);
- the forthcoming Ramsar conference, to be held in Brisbane in 1996;
- LWRRDC requesting the ASL to organise and host a workshop on Biomanipulation in 1996.

How is the ASL responding to these changes? This is in two ways.

First, ASL members are represented on key advisory bodies, such as the Australian Wetland Alliance, the Biodiversity Council, and the Endangered Species Advisory Committee. Others are intimately involved in participating in or even organising international meetings, such as the forthcoming Ramsar and INTERCOL conferences. A number are on the advisory boards of international scientific journals.

But these activities are largely independent of the ASL. It is not the ASL per se that is undertaking the work, but its members.

The second type of response is that by the ASL itself. Over the past few years, the Society has commenced to develop a public profile of its own. For example, the Executive is currently developing a concise list of Limnological Issues and Contact Personnel to present to FASTS to allow them to better lobby on our behalf.

During the 34th Congress at Jenolan Caves Margaret Brock gave two radio interviews about the Society and the problems facing inland waters. I gave a third interview just after the Congress. We also prepared a Press Release to respond to a hysterical outburst regarding water allocations for irrigation versus nature conservation.

These activities are quite revolutionary for the Society. Some members might have thought the motions passed at the AGM regarding water extraction were too feeble. Remember, these are new developments for the ASL and to some extent we are only just "finding our feet" with political issues. Matters and responses can escalate later, if necessary.

Another example of our newly found public profile is demonstrated by our hosting workshops, such as the LWRRDC-funded Biomanipulation Workshop planned for next year. There is sufficient funding to allow us to invite three or four international speakers to address the ASL Congress and the Workshop, thereby improving not only the quality of the Workshop and the Congress but giving international exposure to the Society.

A mildly disappointing aspect of the Congress just passed was the space and time that could be allocated to posters. I remember that during the Bronte Park congress a few years ago, an entire afternoon was devoted to poster presentations. Imagine that, at the next ASL Congress (in Berri), our posters can be presented in an appropriate venue (maybe the Town Hall) and the public and television and radio representatives were invited to view them and talk to the authors....

It's insufficient for just the ASL Executive to be devising and undertaking these changes. It cannot be done without the support and help of the broader membership of the Society. To that end I ask that you all contribute to three items in this Newsletter:

- comment on the draft Issues for Limnology document shown elsewhere in the Newsletter, and
- add your name to the list of contacts regarding these Issues
- comment on what the ASL should do about its FASTS membership.

Send the details to me, and I'll collate them and raise them as an agenda item at the next Executive meeting.

It's especially important to get your name on the list of people willing to be contacted on particular issues. So far, we have a list of only 21 people who volunteered their names, which out of a total membership of nearly 550, is pretty lousy. Come on, not all the media are as bad as Frontline would indicate (I hope!).

Paul I. Boon
September 1995

PRATTLEBUT, SCUMOUR AND RUTTLE

QUEENSLAND

Australian Centre for Tropical Freshwater Research
James Cook University

from: Jacqueline Nolen (jacqueline.nolen@jcu.edu.au)

Having just returned from BraSIL where environmental degradation is so widespread and water pollution extreme, one can truly appreciate the necessity both social and biological for maintaining the quality of our natural heritage. Despite the overwhelming problems and limited funding the research of South Americans was prolific and of a good standard. The tropical research was particularly relevant to our situation in North Queensland. Many valuable contacts in tropical stream ecology were made at the conference and especially during social gatherings amid Sambas and Caparinas (a highly potent Brazilian specialty). Tentative plans were made to form a Tropical stream ecology network so stay tuned for more information.

Back in Australia. The Freshwater Centre welcomes **Faye Cheal** as a new member of research staff. Faye has joined the Burdekin Floodplain Wetland Classification team, thus adding new perspectives from her previous experience working in Western Australia on the Wetlands of the Swan Coastal Plain. I'm sure our mosquitos will also appreciate the new blood. Faye is also updating the North Queensland invertebrate voucher collection. No doubt you will be hearing more about both these projects in the near future. Our ever productive environmental consultancy staff continue to produce valuable research output. **Paul Clayton** has reached the final editing stage of his PhD on waterfall communities in the Wet Tropics; **Steve Skull** is about to publish an illustrated field guide to the *Melaleuca* Woodlands of North Queensland and **George Lukacs** organised the recent conference on "Wetlands for Water Quality Control" hosted by the ACTFR at JCU. The conference was very successful, covering a wide range of current issues and with 200 registered participants from Australia and overseas. For more information please contact George by FAX or phone (see below).

Colton Perna has recently begun an honours project under the supervision of **Richard Pearson.** Studying freshwater fish populations and their habitat use and distribution in coastal streams of the Dry Tropics.

The Burdekin Wetland project is back on track, having experienced numerous setbacks with the need to address urgent land management issues associated with particular development regions within the floodplain. Such are the the problems encountered when research and associated management guidelines are requested after the foundations for major development plans have already been laid. Issues such as this and "ESD" policy will be addressed at a forum for industry personnel which is being

arranged by the ACTFR, to be held in November this year. These problems illustrate the need for more baseline research in North Queensland where current and projected population and development growth is rapid and far in excess of the national average. The topic of baseline research will be the theme for the next edition of AQUATERRAIN, a recently formed newsletter publication of the ACTFR. Anyone wishing to be on the ACTFR mailing list please contact us by FAX: (077) 815589 or phone (077) 814262.

NORTHERN TERRITORY

Environmental Research Institute of the Supervising Scientist

from: Ruth O'Connor

ERISS has joined a large cast to undertake an R&D review of wetlands in northern Australia for LWRRDC. Our area covers the Top of the continent and does not stray too far into the arid zone. More news on this later.

The climate change assessment report is now complete and provides an interesting perspective on monitoring, management and conservation values. We are pleased to report that our combined data sets were able to give us a good platform for this assessment, although there are some awfully big holes that need plugging. The next challenge is establishing a long-term monitoring program - a question of intellect and dollars! The conclusion of the assessment was that our wonderful freshwater wetlands may be changing due to natural processes that will be exacerbated by climate change. What does this mean for our personal conservation values?

The Wetland Management group is also planning a multi-scale project with CCNT looking at habitat utilisation in northern wetlands. By looking at what aquatic and semi-aquatic animals are associated with different plant communities we hope to be able to address issues associated with the ecological effects of exotic plants. Any post-graduate students interested in getting involved please contact **Chris Humphrey** on (089) 799709.

In the bug lab the microscopes have been getting a good workout as **Barbara Klessa, Cate Lynch, Abbie Spiers** and **Bill McFarlane** sort and identify samples from South Alligator River and the Magela system. The bug burn-out blues will be temporarily relieved with another jaunt down the South Alligator River to add another couple of points to the long term data set. The PAWA will also sample 3 sites for the Monitoring River Health Program.

Bill will be drifting south shortly to finish work on his Honours thesis. His work on fish predation on sand-bed macroinvertebrate communities indicates predation is important. Palaemonid shrimps in particular don't appear to enjoy the company of fish.

Our other UNE ring-in, **Andrew Jones**, is back in Armidale finishing his work on spatial variation in sand bed fauna. Variability appears to be low which is good news for samplers and sorters.

Other than that, training of ERA staff in creekside monitoring (using aquatic snails as early indicators of impact) is underway so that by the end of the next Wet the company should be carrying this out independently of ERISS.

Northern Territory University

from: Michael Douglas

Part time honours student **Karen Coombes** has finished all the field work for her project on atyid shrimps. She is halfway through the sample sorting and will give a rundown on the results in the next bulletin. Congratulations to Karen who has recently been promoted to Collections manager for Natural Sciences at the NT Museum. Congratulations also to Karen's supervisor, **Keith McGuinness** and **Janice Warren** on the birth of their baby Mallory Rose.

Penny (Tank Girl) Wurm is steadily writing up her thesis on the ecology of *Oryza rufipogon*, Wild Rice and has been giving lessons in synchronised swimming and experimental design to **Grusha Leeman**. Grusha has commenced an honours project looking at the biology and management of the introduced floodplain weed; Para Grass (*Brachiaria mutica*). The project is supervised by **Greg Hill** from NTU and **Garry Cook** from CSIRO. The work will focus on the distributional range of Para grass using field mapping and experimental work in Penny's experimental tank (The Wurm Institute for Tropical Aquatic Ecology) to look at responses to different flooding regimes. **Michael Douglas** returned from ASL sporting an "I ate at Caves House and Lived" T-shirt and is back in Darwin working on fire effects in intermittent streams in between teaching.

Naomi Rea has recently arrived in the Territory from NSW Water Resources and has taken up a position with the CSIRO Division of Entomology, based at the Tropical Ecosystems Research Centre in Darwin. Naomi and team will be working on the ecology and control of *Mimosa pigra* (another floodplain weed). The research will focus on the impact of *Mimosa* on the native floodplain vegetation and will examine the use of fire as a control technique. Experiments are being setup to look at the impact of such controlled burning on the native vegetation. The grading of firebreaks has been completed and burning will start next month.

University of Technology Sydney

from: Cyrus Edwards,

I finished a full year of macroinvertebrate sampling in August. At the end of the Wet season I decided to intensify my sampling regime to one every four weeks. This coincided rapid drop in water levels and a steady increase in metal concentrations in the East Branch of the Finniss River. I am presently busy sorting through the truckload of samples that I have collected. The end of this year will hopefully see the completion of the majority of my lab-work, leaving next year free for thesis write up. A recent visit by my industrial supervisor from the Australian Nuclear Science and Technology organisation (ANSTO) to replicate and early `90s fish survey, turned out to be quite an adventure. Many late nights, numerous mozzies, fish feral pigs and crocodiles, fish, pursued by bushfires, stung by paper wasps, staked tyres and even more fish. Things are looking pretty good in the Finniss River. After almost a year up here without any visitors, the visit was both interesting and renewed the enthusiasm of an otherwise weary students.

NT Power and Water Authority

from: Armando Padovan

The dry season is almost over, and the heavy weight of humid air is slowly descending upon us. This is our cue to gear up for wet season sampling and to re-install bog matting, shovels and winches in vehicles to get us out when sunk to the axles in the middle of a black soil plain.

Jane Suggit, the Monitoring River Health Coordinator for the NT, is busily into the third week of the late dry season sampling run. The plan is to complete all field work by the end of November to minimise the likelihood of rain interrupting (or totally stopping) sampling. Extra people from around the division have been trained up and are available to assist, taking pressure from Jane and Rodney who were almost always in the field. Applications have just closed for a new position to assist in the MRH project after additional Commonwealth funding was provided. It is expected that the successful applicant will commence with us within the next 6-8 weeks.

Armando Padovan is preparing for a project this wet season which will characterise stormwater runoff from four catchments draining into Darwin Harbour, with each catchment representing a different landuse. Gauging stations are currently being installed/built by the Hydrology Branch to automatically collect water samples throughout the wet. Let's hope the humidity doesn't savage the electronics as it did for **Simon Townsend's** stations during the last wet.

Speaking of Simon, after a three month back-packing trip around North Africa and Europe with partner Linda, a ten day return to Australia to open the mail, followed by

two weeks at SIL in Brazil to present a paper, he's totally exhausted! As well as continuing with his work on Rum Jungle South Lake, Copperfield Creek Dam and the two Darwin Reservoirs, Simon is preparing to expand his study of water quality runoff from burnt and unburnt plots at Kapalga. He's currently placing observation bores to examine groundwater quality as well as surface waters.

Continuing with his work on Run Jungle, **Mike Lawton** is gearing up for the next sampling run measuring heavy metal levels inside of and flowing from the open-cut pits. His work will allow us to see whether metal loads entering the Finniss River is abating, and if the chemocline inside the opencuts is dropping.

Waterweek was held early in the NT this year (August) when the weather is better for both participants and scientists. **Dani Lloyd** did an excellent job this year planning and coordinating WET (Water Exploration Trail) held at Marlows Lagoon just outside Darwin. Six shaded stands were scattered around the park, each one representing a different section of Water Resources activities for students to take a hands-on part in. Each stand was manned by Water Resources staff, and the displays/activities were held over three days.

Dr **Kevin Boland**, the Principle Scientist in Water Quality, has embarked in a new direction and has left Water Resources Division to start his own private consultancy ("Tropical Water Solutions") based in Darwin. Apart from keeping busy submitting for tenders, Kevin is also using his time catching up in writing papers on past projects. His seat here is still empty while a new leader is selected.

VICTORIA

La Trobe University, Albury-Wodonga

From: Gerry Closs:

Field work continues to hold it's store of surprises. The peace on Snowden's Billabong was shattered recently when a shotgun was discharged over the head of **Patrick Driver** by an irate landholder. Pat had unfortunately come ashore in the wrong spot in the dark to untangle some nets whilst sampling carp and European Perch. Pat survived and the hair on the top of his head is growing back nicely (bet no one will want to borrow his waders again!).

Other fish work: **Michael Shirley's** work continues to progress. The mega-experiment on in the Benalla fish ponds is beginning to show some interesting results, with carp and perch having dramatically different impacts on invertebrates and perch growth declining in the presence of carp. Michael has also been invited to enjoy some tea and scones by a landholder at Snowdon's Billabong (Patrick - what exactly did you say to get people so upset?). **Stephen Balcombe** has completed his first sampling of

fish in relation to macrophyte density in billabongs with interesting results - Gudgeons and weeds do not always go together, it depends on weed density. **Gerry Closs** recently completed the post-flood sampling of fish communities in billabongs on the Oven's River floodplain. All billabongs contained fish, including those that were dry by the end of last summer suggesting that fish dispersal across the floodplain during floods is considerable. Jason Lieschke commenced has commenced an honours project on the "Vertical distribution of zooplankton and Australian Smelt in billabongs". He's out on the billabong testing his impressive multi-level fish trawl net.

Molecular work on crayfish and testate amoeba is progressing well. **Mardi Vergensteen** is on the verge of writing up her honours work on genetic variation in Murray Crayfish from the Murray and Murrumbidgee Catchments. Results to date suggest little genetic variation between catchments, however translocation by fisherman is likely to have masked any natural genetic variation. **Lor-Wai Tan** is currently planning sampling of testate amoeba in billabongs with the aim of determining species distribution at different spatial scales.

Trude Hotzel recently presented a paper entitled "Relationship between *Aulacoseira granulata (Ehr.) simsonian* biomass and nutrient concentrations in a large regulated river" at the A.S.L. conference at Jenolan.

CNR, Freshwater Ecology Section.

from: Tim Doeg

The only big news from the Freshwater Ecology Section (FES) here is that we now have no extinct aquatic invertebrates in the State. The Dandenong Amphipod *Austrogammarus australis* has been rediscovered. In a few streams nestled in the Dandenong Ranges, east of Melbourne (we'll keep the location secret for now, don't want all those curious tourist and collectors swarming to the site), this little bug has been hiding. Listed as extinct (not seen since 1911), it's back, discovered during a survey conducted in June by **Edward Tsyrlin** and **Beverly van Praagh** (when they worked here). Odd though, when you tell people about this amazing find, can't seem to work out what they're laughing about. Probably overcome with emotion I suspect. Still waiting to hear from the Minister, or perhaps the Premier, with their joy at the discovery.

Not much else is happening here. All of the research staff in CNR have been transferred to a Research Institute, to be officially declared as a Corporation outside the Department in June next year. From 18 people, the FES is now composed of six of us - so small, we can at last name them all - **Alistair Brown** (Section Manager), **Julia Reed, Tim Doeg, Bill O'Connor, Barry Tunbridge** and **Tanno Raadik.** We are now the Freshwater Ecology Policy Brigade. All CNR research (Flora and Fauna, Pest Animals and Plants, Fisheries, Land Protection) will now be contracted out, at first to the Institute while they are getting themselves established, but then onto the open market.

Yeah, not much else is happening here. Sometime in the next six months, all the non-research CNR people out here at Heidelberg campus will be moving into the central office in Victoria Parade. We have been allocated a floor and a bit - around 600 square metres of space for about 50 people. According to the guidelines and rules, there should be an average of 15 square metres for every staff member (this includes corridors). Try the sums for yourself Accommodation will be at "workstations". Absolutely no idea what they are, but they seem to involve a complicated arrangement of a desk, a phone plug and a moveable partition. Don't seem to have space for a bookshelf though. Bit odd that.

So sorry. Not much of any importance seems to be happening at CNR for the moment. Maybe there will be something big to report for next issue.

Royal Botanic Gardens, Melbourne

from: Tim Entwisle

As part on an ongoing battle to advance the cause of freshwater macroalgae in Australia (and in the process produce a meaningful series of volumes on the algae for the Flora of Australia), my friends and I at the Royal Botanic Gardens are chipping away at various algal families. **Helen Foard** (funded by ABRS) is exhaustively and exhaustingly turning a billion red algal collections (Batrachospermaceae) into DELTA fodder. By Christmas we will be able to make sense of this group of 20-30 species of which maybe 50% are new and endemic. **Simon Lewis** is collating and collecting material of the green algal family Zygnemataceae (things like *Spirogyra*, *Mougeotia* and *Zygnema*). There are lots of names reported from Australia and we hope to rationalize these, sorting out the good from the bad and ugly (***if any one has any good, fertile material of this family they should send it to the RBG Melbourne). Simon (funded by an R.E. Ross Trust grant) is also working with me on a colour guide to freshwater algae to be published by **Geoff Sainty**. It will be an expanded version of the algal chapter of the recent ASL publication on aquatic cryptograms, once again concentrating on the macroalgae (with just a few tiny ones thrown in). This sure-to-be-best-selling-guide should be out late next year. Other projects in progress or almost about to be in progress include the larger members of the green algae orders/families Tetrasporales, Chlorococcales, Cladophora (revisited) and eventually Oedogoniaceae. Somewhere in the back of my mind are the Cyanobacteria of streams and non-toxic environs. Somewhere even further back is the knowledge that I have obligations to a number of CRC for Freshwater Ecology projects which I am occasionally fulfilling.

SOUTH AUSTRALIA

Australian Water Quality Centre
(a business unit of SA WATER Corporation) based at the Bolivar Laboratory

Aquatic Ecology Report

This sub-unit of Biology, consisting of one biologist, **Peter Schultz**, and one technical assistant, **Sally Aebi**, is working on four groups of projects. These are the impact of Waste Water Treatment Plants (WWTP) on streams, monitoring constructed wetlands, the impact of water harvesting on streams and industrial pollution impacts.

WWTP impacts are monitored in the Sturt River, Inman River, Dawesley Creek and Hahndorf Creek. Biomonitoring is performed quarterly in addition to monthly chemical monitoring. Field sorting to family level is used for some projects while others involve laboratory counting at the species level.

The Onkaparinga Wetlands Project has been designed to catch and polish suburban stormwater before it enters the lower reaches and estuary of the Onkaparinga River. A very substantial inflow from the July rains produced a large Zooplankton bloom which is encouraging as it indicates low toxicity and that the ponds are functioning to reduce nutrient inflow to the Onkaparinga River. We sample the macroinvertebrates and zooplankton on a quarterly basis for the SA Department of Environment and Natural Resources (DENR).

An artificial wetland on the Defence Department's Murray Bridge Army Range is designed to divert the output of the Murray Bridge WWTP from the River Murray and make available a source of water that will allow the Army to grass heavily used sections of the range. This unit has been involved with the establishment of macrophytes and monitoring both biological and chemical since the project started. A considerable community input involving the local Murray Bridge High School, Local Field Naturalists and the Australian Trust for Conservation Volunteers assists with planting and monitoring

A joint SA WATER / DENR project is monitoring all major rivers used for water harvesting in the Mt Lofty Ranges. The need for environmental flows and the impact of using steams to transport large volumes of chlorinated water from the River Murray to storages and between reservoirs is being investigated in each catchment. Macroinvertebrate samples are collected quarterly and counted to the species level. The MRHI data will provide a comparative baseline for this work where upstream/downstream sampling is not possible.

South Australia's largest paper mill has changed both its bleaching process and effluent management processes. The present discharge of 60 ML a day to Lake

Bonney near Millicent is being monitored to see how much and how rapidly the most polluted lake in South Australia is improving.

Algal Group

Algal Studies - Progress to 30 September 1995

Steady progress has been made through the winter on a number of projects relating to cyanobacterial ecology and toxicity.

Mike Burch, Peter Baker, Mira Orlovic and **Jo Dean** have been busy processing and analysing phytoplankton and physical data from the 1994/95 summer program of the project examining critical flow and population development of cyanobacteria in the lower River Murray. Preparation is now underway for the 1995/96 summer field program, which will be complemented by a new project by **Peter Baker** on the autecology of *Anabaena circinalis* in the lower Murray. The main aim of this study will be to determine the significance of benthic resting stages in the development of blooms and the significance of large wetlands to the recruitment of cyanobacteria to the main channel.

Renate Velzeboer has returned from a holiday in Columbia to recommence her project examining the toxicity of *Anabaena*. A large number of field samples and cultured isolates is currently being screened for presence and composition of PSP toxins and Renate is keen to receive more material from freshwaters anywhere in Australia (Ph. (08) 2590338). The project will also examine the influence of environmental factors influencing the production and composition of toxins.

University of Adelaide
Department of Bottany

Half the Limnology Group left for Brazil in July, presenting work to packed houses in South America. However the rest of us have remained to answer phones and take messages.

The old hoary chestnut of above ground nutrient uptake in macrophytes has finally been tackled by **Michelle Bald**. She designed a natty experiment with slow release fertiliser added to *Triglochin* either in the water above or the soil beneath. The experiment is still running, but it looks like the plants actually prefer nutrient rich water to nutrient rich soil. Good news for wastewater treatment, and the future of this plant in stinking poo ponds certainly looks bright.

Marcus Cooling is in the field this season, to stretch experiment derived hypotheses to their limits in Bool Lagoon. A very wet start to the season, and a gradual drying out for the lagoon are ideal for studying plant flooding response mechanisms. The costs and benefits of "resting" or "reacting" to inundation are being added up.

Sean White, honours student, is approaching write-up after working on pressurisation of gas spaces in *Typha*. Simplistic gas space models produce discrepancies between predicted and measured stem pressures, and Sean has identified some of the factors which will lead to better pressurisation models.

In the months ahead, the recalcitrant alga *Anabaena* will being cultured by **Justin Brookes** and **Sean Geary** in an attempt to model the response of this alga, and the better behaved *Microcystis*, to flow rates in The Murray. **Kerri Muller** will be capturing gas from a variety of swamps and identifying component molecules using equipment ranging from the high (Gas Chromatograph that goes PING) to the low (upside down petrol funnels) tech.

This summer **Kay Morris** will challenge the Monster that Lurks Beneath, Salinity. In the brand new MFP wetlands, Kay will be seeing how good macrophytes are at stacking on the kilos on a high salt diet. It might sound like a Big Mac and Fries, but its all in the name of waste water treatment.

Our illustrious **George Ganf**, with swag of University teaching awards tucked under his arm, fearlessly leads us into the future.

NEW SOUTH WALES

Australian Water Technologies

From: Jane Growns

I think we are all still recovering from ASL, so I have no news to pass on. I would just like to again thank the members of the 34th Congress Organising Committee for all their efforts - **Richard Lim** and **Peter Jones** (Uni of Technology, Sydney), **Lee Bowling** and **Mick Bales** (Dept of Land & Water Conservation) and **Julie Currey** and **Bruce Chessman** (AWT). We had about 240 delegates which is one of ASL's largest ever, I think. I had a great time organising it - a once in a lifetime experience (I hope!).

University of Technology, Sydney

From: Richard Lim

The Department of Environmental Biology and Horticulture recently welcomed Dr **David Booth** as lecturer in fish ecology. Although a marine fish ecologist he is still partial to the ecology and physiology of freshwater fishes. Under the guise of research, he has travelled to Canada (feeding ecology and physiology of freshwater sunfishes), Oregon (group dynamics of the domino damselfish- in Hawaii) and the US

Virgin Islands (recruitment and juvenile ecology of Caribbean reef fishes), and finally Townsville (a series of studies on recruitment and habitat use in coral reef fishes).

Currently, he is continuing studies into the response of grazing fishes to nutrient enhancement at One Tree Island in the southern Great Barrier Reef, as part of the ENCORE experiment. Locally, he has started investigating the reproductive and growth responses of estuarine fishes to degraded water quality.

University of Western Sydney - Hawkesbury

Water Research Laboratory

From: Peter Adcock

Our lab has been very busy. Recently, I completed a hydrology study on the Rouse Hill Wetland. This is a 3.7 hectare wetland constructed to polish effluent from the Rouse Hill STW. Bromide was used as the tracer. To our surprise the theoretical detention times matched the actual detention times. This suggests that short circuiting is not occurring. This constructed wetland, which is owned and operated by Sydney Water, is significantly reducing outflow nutrient concentrations.

I am also about to repeat some bromide work on the assessment of berm structures and how they affect short circuiting in wetlands. In an initial study in 1994 we compared a control wetland with no berms or deep water sections to a wetland with deep water sections and to another wetland with gravel berms. This study will be repeated, however this time there is plants in the system.

We are also working on a large wetland project in Adelaide. The Multi Function Polis (MFP) is constructing 2 wetlands totalling an area of 50 hectares. Designing these wetlands is a challenge owing to the Mediterranean climate, saline soils, saline ground water and polluted stormwater which will enter the wetland. We are hoping that the MFP will initiate a planting trial which will help us in the design and operation of these complex wetlands.

Paddy Osborne has just returned from a four week consultancy in Manilla working for the Department of Environment and Natural Resources. He is on the move again soon. He has taken a 3 year leave of absence from the University of Western Sydney - Hawkesbury, which will begin next year. He is heading off to St Louis, USA. He claims he will return.

John Bavor has just returned from a wetland workshop in the Czech Republic. The workshop was organised by Dr. **Jan Vymazal** and the Czech Academy of Science and was held in Trebon. Attendees included **Bob Kadlec**, **Curtis Richardson** and **Jan**

Pakorny. John also recently attended and gave a keynote address at the Townsville Wetlands conference.

University of New England

From: Geoff Smith

I must apologise for the absence of a UNE contribution in the last newsletter due to technical difficulties. So here's an update, some of which is slightly old news. Up in the Ecosystem Management Department, **Andrew Boulton** has been installing wells in relatively warm coastal rivers to look at the effects of gravel extraction on subsurface bugs and water chemistry. He also visited Birdsville a few months ago to talk with the Lake Eyre Basin committee about management of the Lake Eyre Basin. It was an interesting trip, aside from the magnificence of the pub (and contents). The major dilemma appears to be the impacts of grazing upon prime floodplain country which is both excellent grazing country as well as of great limnological significance.

A new technician, **Paul Lisle** has joined the Limno team up in Ecosystem Management and is about to become a gravel bar afficionado looking for hyporheic bugs in the Bellinger and Macleay Rivers. **Adrian Pinder** is selecting sites in state forests, agricultural land and national parks for a study of frog-habitat associations. **Sandra Grinter** is working on various projects: finishing looking at leaf decomposition and macroinvertebrates in Armidales' sad urban creek and still studying riparian zones of streams and how they provide wood, leaf litter and shading. Congrats to **Rob McCosker** who has finished his masters thesis on the Lower Gwydir and Gingham watercourses.

Down in Botany we have lost **Kevin Theodore** and his expertise in many technical areas of teaching and wetland research, including identifying our wetland seedlings. Although we downloaded what we could from him he is missed. The Queensland horticulture industry will be the lucky recipient of his talents. A new technician, **Jill Divola** joined our team (ages ago) and is helping **Michelle Casanova** delve deep into the secret lives of very young plants on the wetland plant establishment project. Also, congratulations to **Annabel Douglas-Hill** who handed in her Graduate Diploma of Natural Resources thesis on farm dams and water quality (and has since passed with flying colours).

All involved with the aquatic botany group enjoyed having the LWRRDC Board up and trying to convince them that our wetlands are sometimes wet. One of our temporary wetland group has been heard to say that it would be good if the drought didn't break for a couple of months until the most permanent of our lagoons dry completely (but not in front of any farmers, eh **Michelle**).

Elle (past)-Presidentaye, **Margaret Brock** and **Geoff Smith** are finishing off the three year seed bank project and trying to cram the whole caboose into seven enlightening

pages. After that Geoff will be writing up and trying to ignore the temptation of field work if there's any water in some of the lagoons.

Charles Sturt University

From: Lorraine Hardwick

Life is returning to normal at Charles Sturt University following the ASL congress. The big news is that **Kath Bowmer** has been appointed as the Principal of CSU Riverina and the DV-C (Academic). The Environmental Science staff are looking forward to her arriving next year. **Alistar Robertson** is run off his feet, presenting a paper at ANZAAS and working on a consultancy for the Murray-Darling Basin Commission and a project for the NSW EPA. **Michael Healey** has recovered from a food bug he picked up at ASL and has just submitted for publication a paper on amphibians in billabongs; **Dave Lamb** is sorry that he spoke so long-he and **Alistar Robertson** have just submitted a proposal on the use of airborne video for mapping and monitoring riverine turbidity and perhaps particulate phosphorus. **Robyn Watts** is finally having a breather with one more residential school before the internal students arrive back and she is getting set up for a population genetics research project on bony bream in the Murray Darling Basin and the Fly River catchment of PNG. **Pat Murray** is in the field and **Lorraine Hardwick** is pondering yet more ordinations. **Alison King** is writing up her honours thesis which is due to be handed in mid November. We're all really pleased with her "presentation at the ASL Congress".

ANSTO

From: John Ferris

Our small biological group continues to pursue a variety of limnological projects.

The Finniss River and its East Branch continue to be a focus for our work on the effects of Acid Mine Drainage from the remediated Rum Jungle Mine. **John Ferris**, with **Wim** and **Ruth Vyverman**, successfully sampled for diatoms in the near exponential gradient of dissolved Cu just below the mine. **Dr H.U. Ling** (Deakin, Warrnambool) benefited taxonomically from the few collections of benthic algae that we were able to get at the time. All the best to Wim and Ruth, who have now returned to Europe (see advert for 'productive limnologist/algologist' in this issue). **John Twining** has been at Batchelor again, chasing and translocating crustaceans and spending many cold and early hours netting for fish in the main Finniss River, with much help from "Chuck" and "Kaffir" of the NT Conservation Commission. Another NT connection involves **Scott Markich**, who spent a productive couple of weeks in July with ERISS (Jabiru) working on an ANZECC funded collaboration. He pursued issues arising from his review of the ecotoxicological literature on the toxicity of copper and uranium to tropical freshwater and marine biota in Australia. Scott is back in the NT now, continuing this work. **Cyrus Edwards** (UTS - Gore Hill) is

approaching the end of his year-long investigation of the macroinvertebrate response to the AMD from Rum Jungle. Many thanks to him for lots of help during this year's field trips.

Back in Sydney, **Dr Ahsanullah** has been involved in drafting a review for a collaboration with **Jenny Stauber** (CSIRO) on the legacy of Tasmania's Mt Lyell mine. **Ahsan** and **Ron Szymczak** are bound for Tasmania in November to pursue this project. **John Twining, John Ferris** and **Scott Markich** have been characterising the ability of the Silver Perch to absorb Sr and Cs under tropical conditions. This work forms part of an IAEA coordinated project to gather information on potential nuclide pathways to people living in the tropics. An intensive couple of months were spent on fish kept in tanks in ANSTO's 'tropical' laboratory. **John Twining** is grinding the numbers for a report on this project at the moment.

Late Edition to NSW Prattlebut:
Richard & Mrs Lim are the proud parents of a baby boy (Benjamin, I believe), born on the 13th of October 1995 (a lucky friday for them).

Department of Land & Water Conservation

from: Michael Moroney

Summer seems to be a very busy season for the Aquatic Ecosystems Monitoring Section (AEMS) in the all new and improved Department of Land and Water Conservation (formerly the NSW Department of Water Resources). So far during the merger, it has been pretty much business as usual for our humble little group. This may change in the not too distant future but it would be mere speculation for me to mention anything at this stage (I think our group will go from strength to strength).

For those of you who don't know already, our fearless leader **Dr Mick Bales** has left us and is working, still in the department, as a Research Co-ordinator on the 11th floor. We still see him quite often (whenever he is hungry for coffee and cake/biscuits or when he comes down to literally throw work our way). That leaves **Meredith Royal** and **Monika Muschal** to take the wheel and steer us to even sunnier shores. Well, for six months anyway until the structure of AEMS is decided upon. Also missing is **Andrew Brooks** who has been seconded as a Nutrient Control Officer in the Grafton Region for 2 to 3 months. Other people in our group include **Doug Westhorpe, Julie Boddy, John Graice, Natalie Berriman** and myself.

As for this busy season, field trips abound. It started with the second stage of sampling on the Nymboida, Boyd, Mann, Orara and Clarence Rivers near Grafton for Northern Rivers Electricity. The first lot of sampling for this program began in October 1994. Also currently running is sampling for the:

- Monitoring River Health Initiative in the North West Sector, Far West and North Coast regions of NSW,
- Central and North West Regions Water Quality Program again in the North West Sector of NSW as the name implies. This is a long running program which has been updated for this year to intensively sample along the Macquarie River between Warren and Carinda for a period of two months as well as the usual quarterly sampling.
- Pindari Enlargement Biomonitoring Program which is aimed at monitoring the macroinvertebrate communities over the construction and early operational phase of Pindari Dam enlargement and to assess the impacts, if any, on these communities. Like the Central North West program, sampling occurs quarterly. This year hopefully we will see the start of a sampling program which incorporates flows.
- Border Rivers Instream Biological Resources Study. As yet we have not decided when this sampling will exactly be take place but it will most likely be at the end of Summer, beginning of Autumn. This sampling will complement the report which is in the final draft stage.

After this busy summer it will back into the laboratory for identification which will require much bribing and conniving to get onto a microscope. I think the going price is 1 slice of carrot/banana cake for 1/2 a day in the lab.

Work which has finally been completed includes **Monika's** Biomanipulation project. The last sampling in the enclosures was finally completed early September. Now all that remains is endless hours in the laboratory to identify all the zoops. Meanwhile the enclosures are slowly sinking into the depths of Manly Dam never to be seen again. To all those valiant fish which gave their lives while doing this project, we salute you! Other projects which have come to an end include the Windamere Transfers Biomonitoring, Murray Wetlands Monitoring and Pacific Powers Fish and Macrobenthos monitoring in Lake Liddell, Plashett and Freshwater supply Reservoir.

POSTCARD FROM THE SEDGE

5 LIMNOS TOUR SOUTH AMERICA

Stuart Blanch, Justin Brookes, George Ganf, Kay Morris and Kerri Muller

The original impetus for the trip was to attend the BraSIL conference in São Paulo (see Conference Capers) but we decided that while we were there it would be criminal not to investigate some limnologically interesting sites in this diverse continent. We over-organised the trip before we left which meant that although it was a snapshot tour we saw diverse flora, fauna and landscapes (if only at a glimpse). More importantly, we kept moving and resisted the temptation to linger in beautiful places early in the trip.

The Rio Iguassu drains substantial areas of southern Brazil, converging with the Rio Par‹na at the border of Brazil, Argentina and Paraguay. The river cascades over the immensely spectacular Iguassu Falls before flowing out to the Atlantic Ocean at Buenos Aires. We flew over the Paraguay - Uruguay - Par‹na floodplain system from Buenos Aires to Puerto Iguassu and spent a couple of days viewing toucans, caiman, monkeys, coatis, swifts, vultures, tourists, as well as fresh jaguar tracks and shit. This paradise was unfortunately marred by the hideous, enormous Itaipu dam, which not suprisingly has impacted the downstream ecosystems. This was a fitting prelude to our arrival in São Paulo another major blot on the landscape.

Fortuitous meetings with Brasilian scientists at the conference directed us towards Corumba, gateway to the world's largest wetland system, the Pantanal. There we visited EMBRAPA research centre which studies agriculture and natural resource management in the Pantanal. The lab has strong ties with North American institutions and its main limnological interests are nutrient cycling, floodplain processes, fish kills, mercury poisoning from mining and sustainable caiman harvesting.

After interviewing several likely tour guides, we jumped on the back of a landcruiser and headed off on our Pantanal safari with Green Trek Tours. We ate dirt for 6 hours while accumulating bruises from the rough track. Our camp was a collection of hammocks slung from palm trees beside a pira–a and caiman filled river (which doubled as our bath). We walked continuously across wetlands, rivers and through floodplain forest for 4 days in bare feet. We encountered three species of macaw (including the rare hyacinth variety), woodpeckers, toucans, howler monkeys, armadillos, giant anteaters, capybaras, campus deer, jabiru, foxes, giant otters (of which there are only 60 left in SA), burrowing owls, wild pigs and endless varieties of birds. There can be few comparable experiences to waking up to howler monkeys - howling, woodpeckers - pecking and macaws - cawing.

At the Brasilian border we jammed into the aptly named 'Death Train' bound for Santa Cruz (Bolivia). In the '80's death came in the form of drug runners picking off passengers with automatic weapons - now it is from D-grade Kung-fu movies in

English played all night at full-volume to non-English-speaking locals!! We flew up to La Paz, a mud-brick city sprawling across an enormous Andean valley. The further we went into Bolivia, the more traditional society became. Dried llama foetuses are highly recommended for a light snack or do as the locals do and bury one under your house - air freshener.

We learnt that with a group of 5 we could bargain well for transport - we hired a mini-bus to Lake Titicaca. Our booby prize was the guide - who knew nothing but spoke English as opposed to most who knew everything but couldn't speak English. The new road to Copacabana is recommended for anyone suffering from constipation, especially if you sit at the back of the bus. The road was very windy and treacherous with only sufficient room for one-way traffic. Unfortunately Bolivian driving lessons do not teach drivers how to engage reverse gear so it is difficult to give way to oncoming traffic. However, seeing Lake Titicaca was compensation for it all.

Totora (*Scirpus* spp.) reeds were the dominant emergent vegetation occurring in mono-specific stands regularly harvested for construction of boats, homes and the occasional island. The water was crystal clear supporting abundant submerged vegetation including Myriophyllum spp. All we ate was trout and rice because the trout was so damn good. Of course we also ate Brier chocolate which was always limiting. Every slope around Lake Titicaca was terraced by the Incas, a lot of it is still in use today. We were constantly amazed by the expanse of the terraced land in proportion to the sparse current day population.

We left Lake Titicaca by train bound for Cuzco (Peru). The boredom of the long journey was alleviated by arguing over whether the white border to the lake was a salt crust or calcified Myriophyllum. The dispute was never settled - so we have to go back. Other diversions included Kerri beating up armed guards and Justin being hit by a stone thrown through the train window. From Cuzco we went to Pisac through the Sacred Valley of the Incas. This is a highly productive valley cut by the Rio Urubamba and overlooked by ruined ancient fortresses. George and Kerri caught the train up to the Incan lost city, Macchu Picchu and then headed off to Iquitos (Amazonas). Meanwhile the three gringos hiked the Inca Trail before continuing to Iquitos.

The Amazon was another world. Lush, green, humid (especially considering it was winter) and bustling with river traffic. Everything revolves around the river. Iquitos has swelled from inmigration of villagers seeking better living conditions and foreigners seeking wealth. We travelled in various craft - some more river-worthy than others - to isolated villages comprising 20 thatched-rooved huts around a soccer field. Animals were not as prolific as in the Pantanal probably because they have been eaten. However we did see pink river dolphins, squirrel monkeys, giant catfish and humming birds. One peculiar trait of the locals was to play Spanish rock at 3000000 decibels from 3-6 am. From the jungle we went our separate ways - George to the UK, Kerri to the States and Europe and the three gringos came home.

Generally our health was pretty good. Justin and George needed bowel-blockers to get through their talks. Stu was not well; he caught giardia and redecorated the Pantanal camp much to the amusement of the locals. All except Kerri had their feet inhabited with parasitic worms - jiggers - and spent fascinating hours in hotels digging them out.

We met so many wonderful people who gave us a tremendous insight into the complex conflicts between natural resource management and development within South America. As members of the first world we tend to lecture people in developing countries on topics such as rainforest clearance and pollution of water ways. Rarely do we realise that we have been responsible for similar atrocities in our own countries and for the same reasons - although often we have had 100s or 1000s of years head start.

60 MINUTES

ASL Executive Teleconference
28 July 1995

Present: M.Brock, R.Marchant, P.Boon, M.Barson; Invited: J.Middleton, FASTS rep for marine and aquatic societies.

1. **FASTS (from J.Middleton):** FASTS has difficulties in serving the sectoral interests of individual societies. It would like to produce a policy document that is relevant to the aquatic societies. To do this it needs input from the ASL as to what the important issues are. Thus the ASL needs to canvass its members for national scientific issues. If FASTS has a list of these issues then it can use its contacts in Canberra to promote these ASL concerns.
   It was agreed that M.Brock and R.Marchant would revive the list of ASL issues and present this to the AGM for comment before passing it on to FASTS

2. **Next ASL Congress:** J.Middleton agreed to attend the AGM and give a short address on FASTS.

3. **Student Prizes:** M.Brock suggested that the student prize committee this year should include last year's winner (F.Sheldon) as well as the winner of the Honours prize (S.Wade). She also suggested drawing up an assessment sheet for the judging panel; this sheet could be handed to the students afterwards.

4. **Australian Wetland Policy Unit (part of ANCA):** a workshop on wetland matters may be able to be organised for the September ASL congress. This would help ASL in its dealings with the ANCA unit.

5. **Jolly Award:** K.Walker has confirmed that he will not be able to give an address to the next ASL congress. Instead he will give one at the congress to be held in SA in 1996.

6. **ASL Congress:** some concern has been expressed at the proposal to hold this congress in the Riverina. It would be more convenient to hold it closer to Adelaide which is easier to reach for the majority of likely participants.•

ASL Executive Meeting,
Caves House 17/9/95

Present: J.Jackson, M.Barson, J.Growns, P.Boon, M.Hart, F.Sheldon, R.Marchant, M.Brock

1. **FASTS issues:** J.Middelton will talk to the AGM about FASTS. The FASTS issues paper will be handed out to members before the AGM.

2. **Student prizes:** Assessment sheets have been prepared by P.Boon. Previous winners of the honours prize will not be included on the judging panel as was suggested at the last executive meeting.

3. **Donations:** The secretary has received a request for a donation from the International Trust for Zoological Nomenclature. After some discussion it was decided that the ASL could not make a donation at present as it expected to make a substantial financial contribution to various limnoloigcal activities in Australia over the next year.

4. **Inland Fisheries Review:** A request to comment on the review of the Tasmanian Inland Fisheries Commission has been recieved. The secretary will coordinate a response.

5. **Matters from the President:**
   e) Shirley Balla's drawings might be accumulated and published by the society.
   f) Instead of publishing membership lists at irregular intervals it may be more useful to publish an abbreviated version annually in the December newsletter.
   g) Abstracts from the meetings could be sold to members who did not attend; the programme of the meeting could be published in the newsletter to advertise this.
   h) Address labels for the newsletter need to reach the editor by the deadline for contributions.
   i) The biomanipulation workshop will immediately follow the next ASL congress.
   j) Spare newsletters could be sent to LWRRDC and FASTS and other interested bodies.

6. **From the Treasurer:**
   f) A full list of those who attend ASL congresses is vital if the books are to be audited correctly.
   g) The constitution needs some minor amendments according to the auditors. These can be voted on at the next AGM after they have been publicised by the Secretary.
   h) Life membership should increase to $1000 from $250.

Executive meeting,
Jenolan Caves, 20/9/95

Present: P.Boon, R.Marchant, M.Hart, M.Brock, B.Pusey, M.Douglas, S.Wade, K.Markwort, M.Finlayson, J.Growns

1.New computer: M.Hart informed the executive that a new computer was needed for the society's records. The executive agreed to this expenditure which she estimated at $4800.

24TH ANNUAL GENERAL MEETING OF THE ASL, JENOLAN CAVES NSW, 20/9/95

(p=passed, s=seconded)

1. **Adoption of the agenda**; passed (p-J.Davis, s-P.Boon)

2. **Apologies:** B.Timms, S.Blanch, A.McComb, K.Walker, S.Briggs, W.Williams, P.Geraghty, M.Barson, P.Gerhke, A.Robertson, A.King, C.Merrick

3. **Acceptance of last AGM minutes**; passed (p-J.Chambers, s-J.Davis).

4. **Business arising** - none.

5. **President's report:**

   Since the last meeting of our society on Rottnest Island in January 1994, ASL has continued to be an active and healthy society. Your executive, ably guided by our secretary, Richard Marchant and treasurer/ membership officer Margaret Hart have attended to all the activities that need attention between meetings. The regional members have participated by adding opinions and conveying activities and ideas to and from each region. The president, vicepresident and past president have kept ideas alive, acted on some and have created things to do and think about. Our editor Fran Sheldon is to be thanked for keeping all our membership informed and entertained through our newsletter. A special thanks to our NSW team of conference organisers led by Jane Growns.

Our society is thriving as indicated by the scientific activity reported at this conference. As a professional society we have many reasons to be proud but not complacent. We are an active and changing society and that is a good position to be in the mid 1990's. Our 1994 intention, that our society be seen and heard by more of our fellow scientists, managers and water users has been easily fulfilled.However this is no cause for complacency as it is a long and constant path if we wish to be a proactive society at the forefront of our discipline.

Amongst our members are many who are involved in water management agencies, with water users and with water science. We all respect one another'sperspective, (at least to some degree). In 1994-5 I have enjoyed trying to make a wider community aware of us and to respect our broad knowledge base. This increasing awareness means we should all be prepared to share our scientific and management expertise in whatever arenas available so that we can influence the management of our water resources.

In 1994-5 we have been proactive, as individuals or as a society, in many areas. Many of these activities are evolving and have been on the ASL agenda for years. The list below will be incomplete but indicates somethings that have progressed in 1994-5. Every member should feel that their opinions or input to any of these issues is welcome.

The development of our "Issues for Limnology " document to a stage where it can be fed to appropriate bodies. This is an evolving

document and you should continue to make suggestions for additions or subtraction of issues and names of "experts" available for comment though any executive member.

Media Releases. We have been encouraged by The Science Communicator'sSociety to tell the public what we are doing. This year we made a media release before our conference and this has been followed up with several radio interviews during the ASL meeting. Thanks to Karen Markwort for help with this.

FASTS policy and how it can work for ASL. The revised FASTS policy has had input from various ASL members. At the 1995 AGM the aquatic representative from FASTS executive spoke to us about how we can use FASTS to further our aims. Thanks Jason Middleton.

Australian Biodiversity Council. We have become a financial and active member society . As president I have been a member of the Founding Assembly. The council has been selected to be broadly representative of taxonomic groups and types of ecosystems We are lucky to have two of our members elected to the first council: Pierre Horwitz, representing inland aquatic systems and Tim Entwisle representing the non vascular plants, fungi and bacteria.

Australian Wetland Alliance: This non- government organisation has formed to keep wetland issues alive in the minds of our country, particularly at a time when the next Ramsar meeting is due in Australia in 1996. Max Finlayson has been representing us on this group.

National Wetlands Advisory Committee. This new committee, set up thoughthe Wetlands Unit of the Australian Nature Conservation Agency is advising in the development of a wetland policy of the Australian Government. Professor Bill Williams has been appointed to this committee as a wetland scientific expert.

Endangered Species Advisory Committee and Scientific Subcommittee. This is another federal committee and one of the five scientific members represents inland water species and communities (Margaret Brock).

In 1994-5 several of our members have been honoured for their contributionsto our discipline. These include Professor Arthur McComb who has been elected to the Australian Academy of Science, Dr Kath Bowmer who was awarded the Eureka Award and Professor Jorg Imberger who was awarded the Onassis Prize for the Environment. Congratulations. On a sad topic, we note Shirley Balla's death. There are plans to remember Shirley by publishing some of the many limnological drawings she has shared with us through our newsletter.

The next year promises to be just as active. There are two international wetland meetings in Australia of prime interest to our members; the Ramsar conference in Brisbane in April and the INTECOL Wetlands meeting in Perth in September. We have also been asked by Land and Water Resources Researchand Development Corporation to host a national workshop on Biological Manipulation: how useful is this for Australian waters. This will be attached to the next ASL meeting. The next year should be even more of a challenge. The world needs water, the world needs well

managed waters in both natural and artificial systems . A challenge for the next year, as a society and as individuals, could be to actively and honestly pursue our science and to be open and available to research, teach and to communicate our discipline. So thank you for the science, the thoughts and the discussions at the 1995 meeting, in other fora and in the literature. In particular thank you for all the new ideas presented at this meeting by our student members. You are the next generation who will influence and be our policy makers and water managers and scientists. I have enjoyed being president of ASL and will enjoy a continued active involvement with our society. Thank you for your support and welcome to the incoming executive. Margaret Brock, President (Jan 1994- Sept 1995). Report accepted (p-M.Brock, s-M.Hart).

P.Horwitz (representing the National Biodiversity Council): The council consists of 12 scientists representing various biota and habitats. Its primary role is as a lobby group. Currently its efforts are directed at 4 priority areas.

M.Finlayson (representing the Australian Wetland Alliance): This group was formed 18 months ago to link all non-government organisations concerned with wetlands together so that they can have an impact on the forthcoming Ramsar conference.

6. **Secretary's report:** The secretary summarised the small amount of correspondence over the last 18 months and then dealt with the cost of Special Publication No 10. Of the 250 copies printed 177 have so far been distributed to members (134) or sold (44). Printing cost about $4000 and postage $381; $1075 has been recouped from sales. Thus the policy of sending out such publications only to members who ordered them probably saved the society $1000 in postage and maybe another $1500 in printing. Report accepted (p-M.Hart, s-I.Campbell).

7. **Treasurer's report:** see attached financial report. Currently the society has 534 members. Report accepted (p-M.Brock, s-B.Hart).

8. **Honorarium for Treasurer:** It was proposed and accepted that this should be $2000. (p-M.Finlayson, s-R.Marchant)

9. **New fees structure for 1996-97:** the treasurer proposed the following fees -
   $35 for ordinary members
   $17.50 for students
   $1000 for life members
   $250 for 10 years membership.

These were all voted on and passed unanimously except for the fee for students which was passed but with 9 members voting against it.

10. **The auditors' report** (attached) was read out and accepted (p-J.Davis, s-B.Hart).

11. **Editor's report:** the secretary informed the meeting in the absence of the editor (B.Knott) that Special Publication No 11 was currently being prepared for publication. This is a catalogue of Mayflies for Australia. Report accepted (p- M.Hart, s-P.Boon).

12. **Newsletter editor's report:** the editor thanked her contributors but pleaded for more articles. She encouraged members to send letters to the editor if they wished to comment on particular issues; and suggested that the prattlebut section

be used solely for reporting news. She suggested that S.Balla's drawings be published as a hard bound collection; this met with approval from the members. T.Doeg (a former newsletter editor) congratulated the editor on the fine job she was doing. Report accepted (p-M.Hart, s-J.Chambers).

13. **Jolly award committee:** the president read a letter from K.Walker (the current chairman of this committee) informing members that Dr David Mitchell has been given the 1995 award (*see citation in Jolly Award Section of Newsletter*). T.Hillman on behalf of D.Mitchell expressed the latter's thanks. Report accepted (p-T.Hillman, s-B.Hart).

14. **Student awards** presented by G.Closs (*also see Student Prize Report*):

PhD prize (33 nominations) - J.Jordan (special mention to S.Meredith and J.Brooks);

Hons prize (12 nominations) - A.King (special mention to R.Sharma);

Poster prize (14 nominations) - M.Douglas (special mention to A.Douglas-Hill, K.Walsh, P.Best) (p-G.Closs, s-M.Hart).

15. **Student travel awards:** the secretary announced that 16 travel grants ranging from $100 to $300 were awarded. A total of $3050 was distributed. Supervisors were again encouraged to get students (especially honours students) to join the society in order to benefit from this scheme. Report accepted (p- I.Campbell, s-J.Davis).

16. **Door prize:** T.Doeg ran through a long list of worthy recipients but eventually announced that the Line Dancers had won this coveted prize in 1995. (*see Door Prize Report*)

17. **35th Congress:** F.Sheldon proposed a meeting in Berri SA from 29th Sept to 2nd Oct 1996. This would be directly after the Intecol conference in WA.

18. **Future congresses:** Central Australia was suggested.

19. **Election of the executive:** (the following were elected unopposed)

President - P.Boon (p-M.Hart, s-R.Marchant)
Vice President - M.Finlayson (p-A.Chick, s-J.Davis)
Secretary - R.Marchant (p-M.Hart, s-P.Schultz)
Treasurer - M.Hart (p-R.Marchant, s-P.Cullen)
NSW - J.Growns (p-M.hart, s-R.Marchant)
Vic - G.Closs (p-R.Marchant, s-P.Boon)
Tas - J.Jackson (p-P.Humphries, s-J.Growns)
SA - S.Wade (p-P.Schultz, s-F.Sheldon)
WA - P.Papas (p-J.Davis, s-B.hart)
NT - M.Douglas (p-C.Humphries, s-B.Pidgeon)
Qld - B.Pusey (p-P.Humphries, s-T.Hillman)
ACT - K.Markwort (p-M.Hart, s-J.Hawking)

20. **Election of auditors:** Coster Galgut Pty Ltd were re-elected (p-P.Horwitz, s-A.Chick).

21. **General business:**

a) FASTS: J.Middelton (representative for the marine and aquatic sciences section) addressed the members. T.Gascoigne is the new executive director. FASTS has produced a policy document recently. FASTS needs specific information to act on and lobby government ministers with. Thus the ASL should produce a document outlining its principle concerns that could be sent to FASTS. The society should also contact the

executive director directly about important issues.

b) Intecol Wetlands Conference: J.Davis summarised the existing plans and announced that this meeting would be held in Perth WA starting on 21st Sept 1996. She asked that the ASL become a sponsor of this meeting. P.Boon proposed (s- K.Trayler) that "ASL support Intecol in principle and financially and that the extent of financial support be decided by the executive". This was approved by the members.

c) Workshop on alien fish in Australia: J.Harris informed members that such a workshop was being organised for the near future and encouraged interested members to attend.

d) Capping of water extractions from the Murray-Darling system: P.Cullen proposed that "the ASL should commend the MDBC ministerial council for its decision to stop further abstraction of water from the Murray-Darling" (s-B.Hart). He also propsed that "the ASL considers that significant degradation of the Murray-Darling basin is due to the excessive extraction of water and urges the MDBC and the states to reduce the present extraction to more sustainable levels" (s-M.Brock). There was some discussion about both these statements but they were approved unanimously by the members when a vote was taken.

Meeting finished at 4.14pm
R.Marchant, Secretary

Financial Report 1994-1995

STATEMENT OF RECEIPTS AND PAYMENTS FOR THE PERIOD
1 JANUARY 1994 TO 31 DECEMBER 1994

	1994	For Period 1/4/93 to 31/12/93
GENERAL BANK ACCOUNT		
Opening Bank Balance	$10,978.24	$16,373.76
RECEIPTS		
Bank Interest	161.11	134.65
Congress - 1995	1,000.00	-
Congress - Net Surplus 1994	3,707.08	-
Congress - 1993	-	5,641.00
CSIRO Journals	7,315.00	3,700.00
Publication Inserts	100.00	-
Special Publications	690.00	130.00
Subscriptions - Members	12,372.50	7,067.50
- Students	1,174.50	542.50
- Institutions	865.00	680.00
- Life	750.00	250.00
Transfers from Investment Accounts	5,000.00	
TOTAL	$33,135.19	$34,519.41
PAYMENTS		
Audit Fees	500.00	500.00
Bank Charges	59.31	54.16
Bio - Diversity Contribution	1,000.00	-
Conference Telephone Calls	1,335.80	-
Congress - 1995	1,500.00	-
Congress - Travel 1994	1,920.00	-
Congress - 1993	1,010.60	16,625.75
CSIRO Journals	5,370.00	-
Honorarium	1,000.00	1,000.00
Insurance - Computer	-	218.00
Miscellaneous	49.00	82.00
Newsletter/Bulletin/Teleconference	10,089.36	4,164.21
Outside Support	100.00	350.00
Petty Cash	150.00	126.00
Stationery/Printing/Office Supplies/Postage	1,234.70	421.05
Subscriptions - F A S T S	1,652.30	
TOTAL	26,971.07	23,541.17
Closing Bank Balance	**$17,142.36**	**$10,978.24**

INVESTMENT ACCOUNTS	ANZ Trustees Common Fund V2 Plus	NAB Dep at Call
Opening Balance	37,551.62	4,542.06
Net Interest Received	1,070.13	52.92
Net Bank Transfers	(4,000.00)	(1,000.00)
Closing Balance	$34,621.75	$3,594.98

JENOLAN CAVES CONFERENCE 1995

OUTGOING PRESIDENT'S REPORT 1994-1995.

Since the last meeting of our society on Rottnest Island in January 1994, ASL has continued to be an active and healthy society. Your executive, ably guided by our secretary, Richard Marchant and treasurer/ membership officer Margaret Hart has attended to all the activities that need attention between meetings. The regional members have participated by adding opinions and conveying activities and ideas to and from each region. The president, vice-president and past president have kept ideas alive, acted on some and have created things to do and think about. Our editor Fran Sheldon is to be thanked for keeping all our membership informed and entertained through our newsletter. A special thanks to our NSW team of conference organisers led by Jane Growns.

Our society is thriving as indicated by the scientific activity reported at this conference. As a professional society we have many reasons to be proud but not complacent. We are an active and changing society and that is a good position to be in the mid 1990's.

Our 1994 intention, that our society be seen and heard by more of our fellow scientists, managers and water users has been easily fulfilled. However this is no cause for complacency as it is a long and constant path if we wish to be a proactive society at the forefront of our discipline.

Amongst our members are many who are involved in water management agencies, with water users and with water science. We all respect one another's perspective, (at least to some degree). In 1994-5 I have enjoyed trying to make a wider community aware of us and to respect our broad knowledge base. This increasing awareness means we should all be prepared to share our scientific and management expertise in whatever arenas available so that we can influence the management of our water resources.

In 1994-5 we have been proactive, as individuals or as a society, in many areas. Many of these activities are evolving and have been on the ASL agenda for years. The list below will be incomplete but indicates some things that have progressed in 1994-5. Every member should feel that their opinions or input to any of this issues is welcome.

- The development of our "Issues for Limnology " document to a stage where it can be fed to appropriate bodies. This is an evolving document and you should continue to make suggestions for additions or subtraction of issues and names of "experts" available for comment though any executive member.

- Media Releases. We have been encouraged by The Science Communicator's Society to tell the public what we are doing. This year we made a media release before our conference and this has been followed up with several radio interviews during the ASL meeting. Thanks to Karen Markwort for help with this.

- FASTS policy and how it can work for ASL. The revised FASTS policy has had input from various ASL members. At the 1995 meeting the aquatic representative from FASTS executive spoke to us about how we can use FASTS to further our aims. Thanks Jason Middleton.

- Australian Biodiversity Council. We have become a financial and active member society . As president I have been a member of the Founding Assembly. The council has been selected to be broadly representative of taxonomic groups and types of ecosystems We are lucky to have two of our members elected to the first council: Pierre Horwitz, representing inland aquatic systems and Tim Entwisle representing the non vascular plants, fungi and bacteria.

- Australian Wetland Alliance: This non-government organisation has formed to keep wetland issues alive in the minds of our country, particularly at a time when the next Ramsar meeting is due in Australia in 1996. Max Finlayson has been representing us on this group.

- National Wetlands Advisory Committee. This new committee, set up though the Wetlands Unit of the Australian Nature Conservation Agency is advising in the development of a wetland policy of the Australian Government. Professor Bill Williams has been appointed to this committee as a wetland scientific expert.

- Endangered Species Advisory Committee and Scientific Subcommittee. This is another federal committee and one of the five scientific members represents inland water species and communities (Margaret Brock).

In 1994-5 several of our members have been honoured for their contributions to our discipline. These include Professor Arthur McComb who has been elected to the Australian Academy of Science, Dr Kath Bowmer who was awarded the Eureka Award and Professor Jorg Imberger who was awarded the Onassis Prize for the Environment. Congratulations.

On a sad topic, we note Shirley Balla's death. There are plans to remember Shirley by publishing some of the many limnological drawings she has shared with us through our newsletter.

The next year promises to be just as active. There are two international wetland meetings in Australia of prime interest to our members; the Ramsar conference in Brisbane in April and the INTECOL Wetlands meeting in Perth in September. We have also been asked by Land and Water Resources Research and Development

Corporation to host a national workshop on Biological Manipulation: how useful is this for Australian waters. This will be attached to the next ASL meeting.

The next year should be even more of a challenge. The world need water, the world needs well managed waters in both natural and artificial systems . A challenge for the next year, as a society and as individuals, could be to actively and honestly pursue our science and to be open and available to research, teach and to communicate our discipline.

So thank you for the science, the thoughts and the discussions at the 1995 meeting, in other fora and in the literature. In particular thank you for all the new ideas presented at this meeting by our student members. You are the next generation who will influence and be our policy makers and water managers and scientists.

I have enjoyed being president of ASL and will enjoy a continued active involvement with our society. Thank you for your support and welcome to the incoming executive.

Margaret Brock
President (Jan 1994- Sept 1995)

STUDENT PRIZE REPORT

From: Gerry Closs (gcloss@awcnet.aw.latrobe.edu.au)

Winners of each category recieved a $100 prize and book plate.

Oral Presentation by a Postgraduate (M.Sc./Ph.D.) Student
35 entrants

Winner:
Jacqui Jordan
C.R.C.F.E. Department of Ecology and Evolutionary Biology, Monash University
Effects of the freshwater crayfish, Cherax destructor, on aquatic macrophytes

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Special Mentions to:

Shaun Meredith
C.S.I.R.O. Division of Water Resources, Griffith
Bioturbation of sedimentary phosphorus by carp (Cyprinus carpio L.)

Justin Brookes
Botany Department, University of Adelaide
The use of fluorescein diacetate (FDA) to measure metabolic activity of Microcytis aeruginosa.

Oral Presentation by an Honours Student
12 entrants

Winner:
Alison King
School of Science and Technology, Charles Sturt University - Riverina
Experimental assessment of the role of carp in billabongs

Special Mention to:
Reshmi Sharma
C.R.C.F.E; Water Studies Centre, Department of Chemistry, Monash University
Sedimentation field-flow fractionation - nucleic acid hybridisation: a powerful new analytical tool for determining bacterial biomass

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Poster Presentation by a Student
14 entrants

Winner:
Michael Douglas
School of Biological Sciences, Northern Territory University
The effects of fire on the riparian vegetation of intermittent streams in the wet-dry tropics.

Special Mentions to:

A. Douglas-Hill
Botany Department, University of New England
Factors affecting either macrophyte or cyanobacterial dominance in farm dams

Peter Vesk
School of Biological Sciences, University of Sydney
Trace metals in water hyacinths in Kensington Pond, Centennial Park, Sydney

Kathryn Walsh
Department of Biological Sciences, University of Newcastle
Photooxidative degradation of fatty acids from the cyanobacterium, Microcytis aeruginosa.

DOOR PRIZE REPORT

An edited text of the Door Prize presentation at the ASL Annual Conference in Jenolan Caves, 18-20 September 1995 by T. Doeg

Note: The Door Prize is administered and selected by an anonymous, anarchical, floating collective of ASL members attending the conference. Nominations are submitted to the collective throughout the conference, collated and judged against strict criteria (which are made up just before the AGM).

"As I stand here and look around the room, there are obviously a number of new members of the Society, or new attendees at the annual conference. I can almost hear them saying, "What the hell is the Door Prize Committee report listed here in the agenda?". The President's Report I understand ... the Secretary's Report, no worries... even the Student Prize is clear enough. But a Door Prize?

"Well, the Door Prize began a long time ago as a recognition of the activities of ASL members at the annual conference. Not for recognition of brilliant science, or excellence in data manipulation, or public speaking skills. But an award that recognises more of the off-centre activities that take place at conferences. An award that recognises innovation, lateral thinking, new approaches to old problems, old approaches to new problems (and, of course, the plain silly). In short, it recognises contributions to the culture of ASL conferences.

"The nominations received this year show just how innovative ASL conferences can be.

"The Garibaldi Nomination:. When you have some 240 people descend on your venue, but have only got space for 200 in the dining room, some clever thinking is called for. What could be easier than simply getting rid of 40 people. A small manipulation with a selection of creme bruleee, a twist of something in the potato salad, perhaps a special import of smallgoods from South Australia. And voila! Amazing how the queue for lunch disappears when you know you may be playing Russian roulette with your internal organs by eating the Russian Salad. Congratulations to Caves House for their nomination.

The Nostradamus Nomination: The nomination for forward thinking was for the new, updated ASL directory of members. Who could have predicted the secession of Tasmania (missing from the list of State members), or the elevation of ANU to statehood. Clearly an example of amazing predictive powers!

The Not-Another-Modified-Surber-Sampler Nomination: In the past, we have seen brilliant new innovations in sampling techniques. This year, Peter Serov described the use of a "mop trap". Simply tie a mop head to a colander, and those little crustacea will just flock into it. Appropriate use of cheap technology. I was, however, disturbed by Peter's comment that, although the trap had been successfully used in South Australia, it was still being developed in New South Wales. Yeah, tricky business tying that mop to the colander.

The Throw-Away-Those-Keys Nomination: We can now forget about spending years staring down microscopes identitying bugs. John Hawking has come up with the ultimate new innovative technique. Simply show a slide of an unknown animal during a conference talk, and you can be sure that some showoff in the audience like Peter Cranston will tell you what it is.

The DECORANA-Sucks-Even-If-It-Does-Seem-ToWork-Well Nomination: Multivariate data analysis has clearly gone too far in the past. Complicated transformations and standardisations, unusual similarity indices. Always at the forefront of technology, Pierre Horwitz has hit on the new idea that results of surveys can be analysed using multivariate statistics "based on the presence and absence of data". Ensures that you get a clean and well defined ordination plot every time.

The Do~Anything-But-Just-Attract-Attention Nomination: Presentation of results in order to get the audiences attention has always been a problem. We have become pretty blase about fancy colours and fancy graphics. But Paul Humphries has come up with a new idea. He has somehow managed to suck every single photon of attractive colour out of his slides, leaving a murky, dirty brown-purple background. It certainly caught the attention and, I for one, was waiting expectantly for every slide, simply to see if the next one was just as unattractive as the one before. I hear that the folk at Microsoft Powerpoint have been on the phone, willing to hand over buckets of cash just for the secret recipe.

The Bandwagon-GoneWrong Nomination: On a backward note, a group nomination has been received dealing with an obvious case of jumping on the international bandwagon. To all of you who think that science can be effectively done by simply identiiying invertebrates to the family level, a big nomination. While it may work for Nation-wide, or State-wide comparisons between sites, but it is still not clear if it is suitable for local scale survey work, or, heaven forbid, for scientific research. Just remember, last year was the UNESCO "Year of the Family". We've moved on since then. And what about the taxonomist's family! I see Ros St. Clair sitting there, wondering what all the effort with those pesky Leptocerids was for, I can see John Hawking contemplating a large bonfire of all the MDFRC identification guides.

The Winner: But, as with all prizes, there can be only one winner. And this year, for the most valued contribution to an ASL conference, probably the one thing that will be remembered in years to come well, ... what can you say about Line Dancing. Entertainment? ASL members were enthralled for at least a couple of microseconds (I'll certainly never forget the band and dancers in an empty room, with all the members either outside or in the bar chatting among themselves and sipping away). Fun? The look on the dancers face may have suggested otherwise - this is serious stuff Inclusive? Stand near it and get knocked over during one of those "strutting-out-vigorously" routines. Individual? Just wear what you want, as long as it has leather patches on the tight jeans and no sleeves on the denim shirt (Spurs are optional). Worthy Door Prize winning material? You bet!!

LIST OF CONFERENCE PAPERS

Oral presentations from the 33rd ASL Congress, Jenolan Caves, September 1995. Presentations are grouped in subject areas and then arranged alphabetically.

Macroinvertebrates

Brooks, S.: *Defining disturbance - it's all a matter of perspective.*

Brooks, A., P. Fairweather & M. Bales: *A survey of aquatic macroinvertebrate communities within a cotton farm over a pesticide spray season*

Bunn, S.E., J.M. Hughes & C. Marshall: *Temporal patterns in a guild of algal grazers in subtropical rainforest streams*

Burns, A. & K.F. Walker: *Biofilms as a smorgasbord - the diets of prawns in the River Murray*

Burrell, G.P., J.M. Quinn & C.W. Hickey: *The effects of substrate particle size on invertebrate grazer-periphyton interactions*

Campbell, I. & M. Shirley: *Wood and associated mayfly and stonefly assemblages in a naturally regulated and an unregulated stream in Victoria*

Davis, J.: *Waterpennies, leopard rocks and relict streams in central Australia*

Evans, L.J. & R.H. Norris: *Prediction of benthic macroinvertebrate composition using micro-habitat characteristics derived from stereo photography*

Gregory, M.: *A comparison of multivariate techniques of analysing spatial and temporal variation in macroinvertebrate assemblages in coastal streams*

Grinter, S. & A. Boulton: *Leaf breakdown in dryland streams varying in nitrate concentration*

Growns, J.E., B.C. Chessman & J.E. Jackson: *Rapid assessment of rivers using macroinvertebrates: cost and efficiency of six methods of sample processing*

Hardwick, L., H. Wood, T. Hillman & D. Robertson: *The relationship between macroinvertebrate communities and riparian vegetation in Tarcutta Creek, a lowland tributary of the Murrumbidgee River, NSW*

Hawking, J.H. & T.R. New: *The diet of anisopteran larvae from two streams in north-eastern Victoria*

Horwitz, P.: *Interstitial aquatic fauna and a fuel reduction burn in the Southern Wetland Area of Western Australia*

Hughes, J., S. Bunn & D. Hurwood: *Gene flow in stream invertebrates*

Humphrey, C.L., D.P. Faith & P.L. Dostine: *A long-term study of macroinvertebrate communities in the upper South Alligator River, NT: temporal variability*

Humphries, P., L. Serafini, J. Hawking & A. Chick: *Sampling invertebrates in lowland rivers*

Jordan, J.: *Effects of the freshwater crayfish, Cherax destructor, on aquatic macrophytes*

Lake, P.S.: *Long-term changes in the fauna of Lake Pedder after inundation*

Marchant, R.: *Seasonal variation in the vertical distribution of hyporheic invertebrates in an Australian upland river.*

Marshall, J.: *Effects of Paratya australiensis (Decapoda:Atyidae) on sediment deposition, algal biomass and invertebrate community composition in Stony Creek, a small rainforest stream in South East Queensland*

Marshall, C.J. & S.E. Bunn: *The influence of algal resources on recolonisation of cobbles in a subtropical rainforest stream*

Murray, P., H. Wood, B. Downes & D. Robertson: *Are Trichoptera sensitive?*

O'Connor, R., C.L Humphrey & A. Spiers: *A comparison of qualitative and semi-quantitative live-picking techniques for processing of macroinvertebrate samples*

Papas, P.: *The effect of a saline wedge on the benthic macroinvertebrates of the upper Swan River Estuary*

Parnrong, S.: *Secondary production of the mayfly Austrophlebioides sp.A3 from Loch River, Victoria: the influence of land-use*

Read, M. & L. Barmuta: *Effect of willows (Salix fragilis) on instream invertebrates.*

Robson, B.: *Habitat architecture and herbivory in a Tasmanian river*

Roughley, R.: *Aquatic Coleoptera of springs in Canada*

Royal, M.: *Biomonitoring in north west NSW: The Central and North West Regions Water Quality Program*

Schultz, P. & A. Boulton: *Longitudinal patterns in nutrients, algae and macroinvertebrates in springs in the semi-arid Flinders Ranges, South Australia*

Serov, P. & S. Eberhard: *The "Living Fossils" of New South Wales*

Smith, M.: *Monitoring recovery: the effect of acidity on aquatic invertebrate communities*

Surtikanti, H., R.V. Hyne & R.P. Lim: *Macroinvertebrate community composition and water-sediment quality in the freshwater section of the Hawkesbury-Nepean river catchment*

Thompson, J.: *Predation and flow variability in stream communities*

Trayler, K.: *Vertical distribution and abundance of invertebrates in low gradient, sandy streams of logged and undisturbed catchments*

Treadwell, S. & I. Campbell: *Community metabolism in the Acheron River, Victoria*

Wade, S. & A. Boulton: *Nutrients limit algal growth in Flinders Ranges springs?*

Walsh, C.J.: *The shrimp, Paratya australiensis in rivers and estuaries: reproductive variation and trade-offs*

Wilson, G.D.F.: *Friartucks (Isopoda: Phreatoicidea) from the Blue Mountains and elsewhere: diversity and biology*

Yule, C.: *Food web disruption in a sediment polluted tropical stream in Kalimantan, Indonesia*

Algae

Brookes, J., S. Geary & G. Ganf: *The use of fluorescein diacetate (FDA) to measure metabolic activity of Microcystis aeruginosa*

Burns, F.L.: *Automatic aeration of Japanese reservoirs for algal control*

Fink, M. & R. Oliver: *A technique for assessing nutrient limitation in field populations of phytoplankton using chlorophyll a fluorescence transients*

Green, D.: *The effect of diurnal light/dark periods on the growth and physiology of Microcystis sp. (strain MIC 004)*

Hotzel, G.: *Relationship between Aulacoseira granulata (Ehr.) Simsonson biomass and nutrient concentrations in a large regulated river*

Muschal, M. & M. Bales: *Biomanipulation - the study of a potential management technique for the reduction of phytoplankton*

Perriss, S.J. & J. Laybourn-Parry: *The role of dinoflagellates in carbon cycling in three saline Antarctic lakes*

Rees, C. & R. Oliver: *Nutrient effects on phytoplankton growth in the Darling River: chemical analyses versus growth and physiological bioassays*

Fish

Astles, K.L. & P.C. Gehrke: *Effect of river regulation on the fish populations of the Hawkesbury-Nepean catchment*

Balcombe, S.R.: *Interspecific competition in the fish assemblages of Baddaginnie Creek*

Brown, P. & J. Koehn: *Spatial variability in freshwater fish communities*

Bruce, A., J. Harris, S. Hartley, R. Silveira & others: *The Rivers Survey: A study of the fish resources of NSW rivers*

Davis, K.: *Genetic variation of carp (Cyprinus carpio) in South-Eastern Australia*

Driver, P.D., J.H. Harris, R.H. Norris & G.P. Closs: *The relationship between carp (Cyprinus carpio L.) density and habitat*

Ebner, B. & J. Roberts: *Digging up old carp for fresh facts*

Harris, J.H.: *Measuring the health of rivers: the Index of Biotic Integrity*

King, A.: *Experimental assessment of the role of carp in billabongs*

Pethebridge, R.: *The ecology of exotic fishes in the Hawkesbury-Nepean River System*

Pidgeon, R., K. Martin, J. Boyden & P.Bailey: *Monitoring the effects of land application of mine waste water on a small seasonal stream near Nabarlek uranium mine (NT) using fish community structure*

Robertson, A. & M. Healey: *Response of benthic processes to manipulation of carp densities in billabongs*

Schiller, C., P. Brown & P. Gehrke: *Recruitment to fish communities within the Murray-Darling River system*

Shirley, M. & G. Closs: *Habitat use of European Perch (Perca fluviatilis) in billabong habitats of the Murray River*

Silveira, R. & J.H. Harris: *At what spatial scales are the fish species communities in the NSW rivers determined?*

Watts, R.: *Population genetics of native fish from the Murray-Darling Basin*

White, G.A. & M. Mallen-Cooper: *Passage of native fish in an experimental Denil fishway on the Murray River*

Wetlands

Bald, M.L. & G.G. Ganf: *Triglochin procerum: response to nutrient loading, water levels, and harvesting: Implications for waste water management*

Brereton, G.: *A strategy to rehabilitate the Macquarie Marshes*

Brock, M.: *Wetland seed banks: Is each wetland unique?*

Chambers, J.M. & J. Lidston: *The use of wetlands to reduce the nutrient load of agricultural drainage in south-western Australia*

Cooling, M. & G. Ganf: *Limits on the rapid petiole elongation response to inundation of the floating leafed plant, Villarsia reniformis*

Lund, M.A. & D.S. Ryder: *Lake restoration using artificially generated gilvin - is it feasible?*

Roberts, J.: *Temporal variations in leaf mortality of blackbox, Eucalyptus largiflorens on the Chowilla floodplain*

Smith, R.G.B.: *Vegetation patterns and water regime in temporary wetlands*

Sonneman, J.A.: *A multivariate analysis of freshwater macroalgae in urban and non-urban lowland streams*

Ecotoxicology

Bowmer, K., P. Fairweather, G. Napier & A. Scott: *Impact of cotton pesticides on river ecology*

Napier, G.M. & W. Korth: *Biological responses to effluent from irrigated agriculture*

Leonard, A.W. , R.V. Hyne, R.P. Lim & J.C. Chapman: *Relationship between abundances of selected macroinvertebrates and bottom sediment endosulfan levels in the Namoi River (NSW) -A preliminary study.*

Allanson, M.T., R.H. Norris & M. Parsons: *Metal mine waste pollution of the Molonglo River, New South Wales and the Australian Capital Territory: macroinvertebrate bioassessment; in situ trace metal accumulation and survival of Atalophlebia australis (Ephemeroptera:Leptophlebiidae), and Oncorhyncus mykiss (Salmonidae.)*

Management Issues

Bales, M.: *The role of the NSW Department of Land and Water Conservation in the integrated management, conservation and sustainable development of natural resources in NSW*

Lindsay, G.: *Aquatic ecosystem management and the Hawkesbury Nepean Catchment Management Trust*

Boulton, A.: *Limnology in the courtroom*

Wettin, P.: *Contribution of science to water for the environment*

Geraghty, P.: *The squillion dollar question: who should pay for waterway management?*

Other Vertebrates

Healey, M. & D. Thompson: *Amphibian communities associated with billabong habitats*

Pettigrove, V.: *The distribution of platypus in urban waterways of the Yarra Catchment*

Pusey, B. & M. Kennard: *Allochthonous inputs to the diet of aquatic vertebrates*

Limnology - General

Bayes, E. & B. Hart: *Limnology of Petty's Orchard Lake*

Bowling, L. & D. Harris: *Limnology of the Menindee Lakes system, Western NSW*

John, J. & C. Walsh: *Limnology of Sandford granite rock pools at Westonia, Western Australia, with special reference to algal assemblages*

O'Connor, N.: *A lowland stream mesocosm facility: construction and design*

Phillips, N. & T. Williams: *Classification of lakes of the Cape Flattery, North Queensland dunefields based on benthic faunal composition*

Timms, B. *Renegrade coastal dune lakes in southeast NSW?*

Hydrology

Bormans, M. & I.T. Webster: *Modelling the relationship between stratification and discharge in rivers*

Bouckaert, F.: *Characterisation of microhabitat flow regimes in streams and rivers on the basis of shear stresses and turbulence intensities measured with an acoustic doppler velocimeter (ADV)*

Fairweather, P. & J. Roberts: *A multivariate concept of flood regime on the Chowilla floodplain*

Gehrke, P.C. & P. Brown: *A measure of river regulation for assessing responses of biotic communities to streamflow modification*

Sherman, B.S. & I.T. Webster: *Why flow controls phytoplankton growth in the Murrumbidgee River*

Song Qiu & A.J. McComb: *Drying increases P release from reflooded lake sediments*

Water Chemistry/Nutrients

Baldwin, D., J. Beattie, L. Coleman & D. Jones: *Abiotic hydrolysis of organic phosphorus*

Brown, G., J. Mathieu, B. Maher, R. Norris & R. Bevitt: *Fairchild pots - A case against*

Crook, D., D. Blhdorn & A. Sanger: *Water quality of Tasmanian highland lakes*

Currey, J.: *Diurnal variation of water quality in the receiving streams of some Blue Mountains Sewage Treatment Plants*

Ford, P.W. & M. Fink: *Sediment traps, turbulence, and floating and sinking particles*

Hart, B.T., M. Grace & R. Beckett: *Nutrient cycling in the Darling River: Why is the soluble P concentration so high?*

Hayes, W.J. & R.T. Buckney: *The role of sediments in some small Hawkesbury Sandstone freshwater streams of the Sydney area*

Lamb, D.W. & J. O'Donnell: *Use of airborne video for assessing water quality in Australian inland rivers - a preliminary evaluation*

Meredith, S., J. Roberts, K. Walker & P. Fairweather: *Bioturbation of sedimentary phosphorus by carp (Cyprinus carpio L.)*

Murphy, D. & R. Beckett: *Particle size and shape analysis by sedimentation field-flow fractionation and electron microscopy*

Sheldon, F. & M.C. Thoms: *A model for organic matter retention in the Barwon-Darling River System, western NSW*

Van Berkel, J. & R. Beckett: *Adsorption characteristics of the nutrient orthophosphate to natural colloids using sedimentation field-flow fractionation*

Microorganisms

Boon, P.I., J. Ross, P. Virtue & P.D. Nichols: *Quantitative analyses of planktonic and benthic microbes in wetlands using biomarkers and oligonucleotide probes*

Dickson, J.A.: *Australia's chydorid cladocerans: a neglected resource?*

Jenkins, K.: *Growing crops on the land of the fairy shrimps*

Jones, G. & W. Minato: *Cyanobacterial and diatom population dynamics as a function of flow regime in the Lower Murrumbidgee River, NSW*

Kobayashi, T., R.J. Shiel & B.G. Coote: *Selective feeding by zooplankton: Implications for complex effects of grazing on phytoplankton community structure*

Laybourn-Parry, J., S.J. Perriss, J. Rohozinski & G. Seaton: *A mixotrophic protozoan as a significant contributor to primary production in the plankton*

Linde, G. & R. Oliver: *Obtaining information on phytoplankton photosynthesis from the PAM (Pulse Amplitude Modulated) Fluorometer*

Matveev, V. & L. Matveeva: *The control of phytoplankton biomass in reservoirs by zooplankton, nutrients and fish*

Nielsen, D.: *The effect of flooding on micro-invertebrates in artificial billabongs*

Ross, J., P. Boon & B. Hart: *Detection and quantification of planktonic methylotrophic bacteria in a freshwater floodplain lake with 16S rRNA probes*

Sharma, R., J. Ross, P. Boon & R. Beckett: *Sedimentation field-flow fractionation - nucleic acid hybridisation: A powerful new analytical tool for determining bacterial biomass*

Whittington, J. & R. Oliver: *Evaluation of the Pulse Amplitude Modulated (PAM) Fluorometer for estimating phytoplankton photosynthesis*

Workshops

A. Monitoring River Health
Convenor: Richard Norris

R.H. Norris, K. Thomas, S. Grimes, C. Williams & M. Allanson: *Comparison of Surber and kick/sweep net sampling for collection of benthic macroinvertebrates*

Melissa Parsons & Richard Norris: *The effect of habitat specific sampling on detection of impairment in macroinvertebrate communities, using a predictive model based on environmental data*

R. Marchant, S. Talman & R. Norris: *The prediction of invertebrate communities in Victorian running waters*

B. A Wetland Policy for Australia
Convenors: Margaret Brock, Samantha Usbank & Max Finlayson

C. Ethics in Limnology
Convenor: Peter Fairweather

D. The Eternal Triangle - Scientists, Managers and the Community
Convenor: Bruce Chessman

E. Impacts of Alien Fish in Australia
Convenor: John Harris

F. Carbon Cycling and Microbial Dynamics
Convenors: Johanna Laybourne-Parry & Paul Boon

Copies of the Abstracts from the Jenolan Caves Conference are available from:

Dr Jane Growns
AWT Ensight
PO Box 73
West Ryde, NSW 2114
Email: grownsj@styx.awtensight.nsw.gov.au

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JENOLAN CAVES 1995

JENOLAN CAVES 1995

JENOLAN CAVES 1995

JOLLY AWARD 1995

CONGRATULATIONS - DR DAVID MITCHELL

The Jolly Award honours the memory of one of the founding members of the Australian Society for Limnology. Just as Hilary Jolly's energy and enthusiasm were a vital part of the ASL over 30 years ago, the Jolly Award is dedicated to people whose work has helped to advance the cause of limnology in Australia.

The Award Committee this year consisted of Jorg Imberger, Arthur McComb and Keith Walker. The name recommended to the ASL Executive by the Committee is synonymous with research on aquatic plants, particularly those recognized as "water weeds". Dr David Mitchell is a major presence in Australian limnology, and the ASL Executive enthusiastically accepts him as a most worthy recipient of the Jolly Award for 1995. Here follows the transcript of the Jolly Award Committee recommendation.

Dr David Mitchell was born in Rhodesia and began his career as a science teacher in Salisbury. He became a Lecturer at the University College of Rhodesia, and in 1970 completed a PhD thesis on the ecology of the water fern *Salvinia molesta*. He was also Director of the Lake Kariba Research Station, in a time of political upheavals that culminated in emergence of the nation of Zimbabwe.

Dr Mitchell spent a sabbatical year at the University of Adelaide in 1975, when he laid the foundation for a national strategy for management of aquatic weeds. In 1977 he returned to join the CSIRO and later, as Chief of the Division at Griffith, played a pivotal role in the evolution of the present Division of Water Resources. In 1986 he was appointed founding Director of the Murray-Darling Freshwater Research Centre at Albury, whilst retaining his position with CSIRO. Recently, of course, the Centre has become part of the CRC for Freshwater Ecology.

Dr Mitchell has published over 170 articles, including more than 70 refereed papers or book chapters. It would be difficult to discover a research project on water weeds in Australia, or indeed anywhere in the world, that does not recognize some debt to him. A similar debt is incurred by Dr Mitchell's involvement in administering limnological research, and in fostering relationships between research and management.

Dr Mitchell formally retired in June 1995, but remains a Professorial Associate at the Murray Campus of the Charles Sturt University. In this post he retains an active interest in the development of wetland systems for treatment of runoff and wastewater.

KF Walker
For the Jolly Award Committee, 1995

ARTICLES

FASTS, ISSUES FOR LIMNOLOGY, AND CONTACT PERSONNEL

Your input is needed on these three topics

Over the past few months, the Executive has prepared a rough draft set of Limnological Issues that we believe include:

- the major crises facing the ecology and management of our inland waters, and
- that the ASL is the appropriate body to be addressed when these or similar topics hit the headlines.

These Issues are:

1. Water Quantity and Quality
   - water allocations for environmental purposes
   - pollution of groundwater
   - point-source and diffuse-source discharges of pollutants to surface waters
   - salination
   - hydrological changes to surface waters by river regulation, and to groundwaters by pumping
   - eutrophication and algal blooms

2. Conservation Issues
   - endangered species
   - threats posed by introduced species, both plants and animals
   - rehabilitation of degraded aquatic systems
   - management and conservation of wetlands

3. Funding and Research Initiatives
   - support for taxonomy and biodiversity studies
   - support for long-term ecological support
   - support for specific limnological research, including on riparian zones and climate change
   - is funding for freshwater ecology not applied enough to receive funding from state agencies, but not pure enough to receive funding from ARC?

We need your opinions on these items. Once we have your ideas, the Executive plans to prepare a 2-page document for submission to FASTS and other key groups or associations. FASTS can then use the document for improved lobbying on the Society's behalf. We can also use it during contact with the media, as a concise list of our major limnological concerns and the people the media can call to obtain additional (expert) views.

We need you to do two other things as well:

- Put your name on our list of Contacts for Issues in Limnology. Send to your State Representative, the Executive or me your name and a brief (5-10 words) summary of issues you feel confident about commenting publicly about.

- And, give the Executive some feedback on the FASTS presentation by Prof Jason Middleton at the last AGM. This topic requires resolution, and is raised here because it links closely with the construction of the Issues and Contact Personnel documents.

The Executive cannot act responsibly unless we know what the membership wants.

Paul I. Boon
(ASL President)

WETLAND POLICY FOR THE AUSTRALIAN GOVERNMENT

Australian Limnology Society briefed on the development of a Wetlands Policy for the Australian Government.

Samantha Usback, Wetlands & Migratory Wildlife Unit, Australian Nature Conservation Agency (ANCA)

During an informative workshop session at the recent ASL Congress at Jenolan Caves, I was able to provide an update on current activities leading to the development of a possible Federal Government wetlands policy.

I indicated that Senator Faulkner has recently set up the National Wetlands Advisory Committee (NWAC), representing a broad cross section of Federal Government Departments, technical experts and key stakeholder groups to oversee the development of this Policy. Two wetland scientist included on the Committee are Professor Bill Williams and Associate Professor Paul Adam.

Senator Faulkner has asked ANCA to coordinate a review of existing Commonwealth legislation, policies and programs and their potential impacts on wetlands. A discussion paper will be prepared ready for a workshop to be held 4-6 December 1995. Progress beyond this point will be subject to the agreement of Cabinet. In the event of the Policy receiving Cabinet approval, it will be circulated widely for public comment.

In the lead up to the 1996 Ramsar Convention Conference it seems timely that the Federal Government is considering the development of it's own wetlands policy as a means of coordinating wetland conservation across Federal departments. It is hoped that Australia can one day progress to develop a truly national wetlands policy with the cooperation of all levels of Government.

The proposed Federal Policy will aim to provide:

- a framework to manage wetlands on Commonwealth lands and water;
- guidelines for Commonwealth decision making and expenditure which impacts on wetlands;
- direction for the National Wetlands Program;
- advice in international actions expected of Australia under treaties such as the Ramsar Convention, Bonn Convention (Convention of the Conservation of Migratory Species of Wild Animals) and bilateral migratory bird agreements Australia has with Japan and China.

At the workshop ASL representatives discussed ways in which the Society could become actively involved in this initiative and other wetland related activities. There was a call for ASL to become more pronounced and vocal, representing a united front in it's own right, on issues relating to wetland conservation.

In order to achieve this recognition the group discussed the feasibility of establishing a Working Group to coordinate ASL's position and view on particular issues and provide briefs to those individual ASL members who sit on Committees such as NWAC and Australian Wetlands Alliance (AWA). Bill Williams indicated that he was keen to receive advice from ASL to put forward to NWAC. Similarly, Max Finlayson who represents ASL on the AWA is also keen to receive input from the Society.

In addition, the group considered it appropriate that ASL and ANCA develop a more interactive relationship. The opportunity to exchange information on regular basis should be utilised through avenues such as existing newsletters, such as ASL's newsletter and ANCA's biannual newsletter Wetland Australia.

The workshop itself was successful in providing a mechanism to exchange comments regarding the Policy development and assisted in providing a positive focus to direct ASL, a key wetlands stakeholder, into the future.

The Wetlands & Migratory Wildlife Unit of ANCA produces a biannual newsletter Wetlands Australia directed at wetland managers, nationally. The Unit is calling for material to be included in it's third issue to be released in early 1996. If you wish to submit an informative article which may assist wetlands managers or wish to be included on the newsletters mailing list please contact Kira Schlusser on (06) 2500385.

WILL WE EVER LEARN? - COTTON IRRIGATION MOVES INTO THE LAKE EYRE BASIN

NSW cotton interests that have run out of water on the Darling are trying to move in on Australia's last great unregulated rivers, the Cooper and Diamantina. The initial proposal is to pump 42,000 ML each summer from Cooper Creek at Currareva near Windorah, in western Queensland. Offriver storages of 15,000 ML will be used to irrigate 2,500ha. of cotton. This allocation will be met by extractions on a sliding scale at a rate that appears to work out at between 2.5% and 30% of median flows depending on discharge.

This may seem a relatively modest water demand, but the Cooper is one of the most variable large rivers in the world. On average, in at least one year in three, flows are so low that the Cooper would not be able to sustain this level of extraction. Although summer is usually the period of peak flows, on average 26% of summer months have zero flow. But averages mean little in such a river. The developers will face El Nino cycles imposing extreme longterm discharge fluctuations. What will happen to commitments to absolute allocations or percentages of median flows when the discharge has been zero for months, the storages are empty and the crop is dying?

The history of the Darling shows that such proposals are the thin edge of the wedge. Greater volumes of water will inevitably be demanded, crippling demands on the river will be made during drought, more companies will move in, algal blooms, fish kills and water shortages will increase, and existing local industries like pastoralism and tourism will be decimated. Once established, irrigation water rights are notoriously intractable to negotiation, and use is extremely difficult to regulate. Can we really allow this disaster to repeat itself?

The lower floodplains of the Cooper and Diamantina in South Australia have just been assessed by CSIRO for their World Heritage natural values. CSIRO's final report has not been released at the time of writing, but the indications are that their findings are positive. The lower floodplain of the Cooper, at 19000 squ. km., is one of the largest freshwater wetlands in the world listed under the Ramsar Convention on Wetlands of International Importance. Next year Australia hosts the international Ramsar Conference, involving representatives from 84 nations. ASL readers don't need any reminders about the ecological effects of irrigated cotton farming. How will Australia look if its largest freshwater Ramsar wetland, and potential World Heritage site, is ecologically crippled?

The proposal is not even subject to an EIS, and the decision is made by the Queensland Department of Primary Industries under the Queensland Development and Public Works Organisation Act. Submissions can be made by parties within 24km of the site to an "Initial Advice Statement". The terms of reference of this Initial Advice Statement are ludicrously inadequate, and treat the proposal as if it were for a service

station or a deli, instead of a major intervention in a river system, with implications over tens of thousands of square kilometres. Ecological effects, large-scale implications, monitoring requirements, adequacy of existing hydrological and ecological information, or the need for any overall catchment policy, plan or process are entirely ignored. Hydrological data collection on the Queensland Cooper was discontinued in 1988.

Many Lake Eyre Basin pastoralists and townspeople are strongly opposed to the proposal. They recognize that the project is a threat to the watering of their floodplain pastures in the Channel Country, and that even the possibility of pesticide pollution would destroy their plans to target niche markets for pesticide-free beef. All major conservation groups in South Australia and Queensland have also expressed their opposition. A catchment management body (Catchment Management - Lake Eyre Basin Steering Group), with membership from local industry, conservation groups, South Australian and Queensland Government Departments, Aboriginal and Landcare organisations, which was set up in May this year, has also expressed its opposition.

However, the developers are apparently not waiting for the completion of even the inadequate process under the Queensland Development and Public Works Organisation Act. They are already developing the site. I would like to call on all limnologists to immediately express their concerns about this development to the Queensland, South Australian and Federal environment Ministers. In my opinion, large scale irrigated agriculture is not appropriate for the Lake Eyre Basin rivers, and there should be an indefinite moratorium on such developments. At the very least, the moratorium should be imposed until comprehensive hydrological and ecological information on these river systems is available, and a Lake Eyre Basin Catchment Commission is established with appropriate powers, resources, policy and assessment processes. Let's get it right this time.

Jim Puckridge

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Phone: 09-360 6298
Email: trayler@csuvax1.murdoch.edu.au

ANNOUNCEMENTS

PRODUCTIVE Limnologist/Algologist seeks to foster collaboration with Australian Researchers.

Dr Wim Vyverman (pronounced 'Vayverman' or thereabouts) has just completed a VERY productive couple of years in Australia and is seeking to extend his links with researchers in Oz. He is interested in limnological collaboration that can use his already considerable experience in algal ecology/taxonomy (particularly with tropical, benthic diatoms), multivariate statistics, and the successful visitation of remote and difficult field sites.

To give you an idea of Wim's scientific productivity, he has published 2 books and 23 papers in the past 5 years, with a further 7 papers in press at the moment !! These works cover a range of topics in algal taxonomy, ecology and biogeography, as well as the use of diatoms to infer environmental gradients and the limnology of microbial communities in some New Guinean meromictic lakes.

Wim has just returned to the State University of Gent, in Belgium, where he is contactable at:

Laboratorium Voor Morfologie,
Systematiek en Oecologie van de Planten
K.L. Ledeganckstraat 35
9000 Gent
Belgium

or by E-mail to the somewhat daunting address that follows -

Wim=Vyverman%resbot%Biomse.RUG@vinarc01.rug.ac.be

Please write to Wim if you would like to collaborate with an extremely keen and productive researcher.

NEWS FROM FASTS

Toss Gascoigne
Executive Director; Federation of Scientific and Technological Societies (FASTS)
PO Box 218, Deakin West, ACT 2601.
Phone: 06-282 2026 Fax: 06-282 2953.
Email: fasts@anu.edu.au

FASTS' policy launched

The FASTS policy launched at Parliament House in Canberra on June 8 was immediately recognised as a significant input into the Government's important Innovation Statement due for release in late August. The Minister representing the Minister for Industry, Science and Technology, Senator Schacht, said the proposals in "A science policy for Australia in the 21st century" would be seriously considered in preparing the Statement.

FASTS President Professor Graham Johnston said in launching the policy that a renewed spirit of discovery was sweeping the science community, and that the task was to share that excitement with the wider community. "Better communication between scientists and other members of the community is vital to Australia's success in the 21st century. The country needs a cultural change in the social perception of science, technology and engineering," he said.

In responding, the Minister said to the audience of 60 scientists and policy-makers that the Innovation Statement will have the same status as other important Government Statements such as Working Nation and Creative Nation.

November Council Annual meeting

All member societies are invited to send representatives.

The dates for the FASTS Council meeting have been set for November 23 and 24 in Canberra. This is the occasion when representatives of all Member Societies meet to discuss policy, and to set the directions for FASTS for the following year. Minister Peter Cook and Opposition spokesperson Robert Hill have accepted invitations to speak to the meeting and to answer questions. Senator Cook is scheduled to speak between 12 and 1; and Senator Hill between 4 and 5 pm. Both talks will follow the pattern of a 20 minute address and 40 minutes for questions.

P.S. This annual meeting is the appropriate place for a detailed discussion of FASTS written policies. But the Executive and Board would welcome any feedback at any time - fax or email the FASTS office.

World Wide Web for member societies

FASTS Board is investigating setting up a World Wide Web entry, to provide current and easy-access information about this organisation. FASTS aims to have the policy document, constitution, and explanatory material on the formation and achievements of FASTS available; with lists of member societies, Board and Executive members, and contact points. The newsletters could also be posted. This carries interesting possibilities of putting up similar information about the member societies too. Cross-references could be made to those member societies which already have a listing on the Web. But would other societies like a listing for their own organisation? This could be arranged under the FASTS umbrella. There would be a fee involved, for labour in entering the material. Let the FASTS office know if you are interested.

CONFERENCE REPORTS

SIL 1994 - SÃO PAULO BRAZIL

Report No. 1

From: Ian Campbell (Ian.Campbell@sci.monash.edu.au)

The XXVI Congress of SIL held from the 23 to 29 July in São Paulo, Brazil, was attended by 943 participants from 63 countries. São Paulo has a population of about 18 million people, none of whom speak English. There a many banks spread throughout the city, and one at the Anhembi Conventions Center, where the conference was held, but very few of them change foreign money. The bank at the convention center didn't. The Post Office didn't sell envelopes, but they had very nice T-shirts. This was an interesting conference! As with Barcelona the Paulinistas have a fine line in mugging, Dr Marchant would have been right at home. For the 2001 congress we may have to fly some expert muggers in specially.

Professor Williams presented the Kilham Memorial Lecture, speaking on "The largest, highest and lowest lakes in the world: saline lakes" which he illustrated (with some difficulty) with slides and overheads. The Baldi Lecture was presented by Henri Decamps on "Renewal of riparian forest within floodplains: a landscape perspective".

Among the many highlights of the conference for me were the large number of young Brazilian limnologists who presented work, mainly as posters, at the conference. There seems to be a population explosion in Brazilian limnology which must be a good sign for the future. Another highlight was Cafe Piu Piu, and establishment of which I'm sure Professor Winterbourn would have approved. The Banquet on the final evening included a band and dancing. A Brasiliero commented to me "The gringos get drunk and dance very badly, it is very funny".

Professor Williams has accepted the position of editor of the proceedings of the society (which prompted a comment in the meeting of national reps "has he seen a psychiatrist?), and in future the proceedings will appear under an English title - reflecting the fact that the contents are now almost exclusively in English. Australian delegates were delighted that Professor Williams was able to provide us all with 20kg of manuscripts to bring back to get our luggage up to weight.

The scientific side of the congress was marred by

The next congress will be held in Dublin, in 1998. It promises to be larger than Brazil, and will probably run a little more smoothly, oiled by the water of life.

SIL 1994 - SÃO PAULO BRAZIL

Report No. 2

From: Stuart Blanch and Kerri Muller.

The congress was held in the second biggest city in the world; no not Adelaide, São Paulo. We arrived at the airport believing that we would be met and escorted to the congress venue. George Ganf, Justin Brookes and Kay Morris guarded the bags while we went in search of the SIL information booth. After several broken conversations and half a frustrating hour we realised there was a difference between actually knowing Portuguese and having a phrase book in your back pocket. Finally we were directed to MacDonalds where we told someone would know about SIL but all they wanted to do was sell us fries.

Bus into the city, taxi to the congress centre, almost got charged double fare, which became common, only to find that the staff of the congress centre were all at a soccer match and the registration desk was not constructed yet. Esteemed limnologists were everywhere perched upon their luggage - waiting. Everyone relaxed over a few drinks once things were finally underway - however no-one knew where they were staying. Ah, Ma–ana!!

We ended up staying at Hotel Lunas in the seedy district (was that all of São Paulo?) it was just a short stroll from the metro which was quite an experience - very efficient and clean - totally different to the city above ground. Ian Webster did not have trouble getting his luggage to the hotel - it was still in Sydney.

The theme for the congress was; 'Water as a limiting resource: Conservation and management', of course this should have read 'Food as a limiting resource: Everything is bloody expensive'. Every morning started with plenary lectures of which the Kilham Lecture was given by our own Prof. Bill Williams. Many of the talks were excellent although about 20 % of the speakers did not turn up, which was annoying when there were so many concurrent sessions in remote locations. It appeared that some of the absent 20 % were North Americans who were turned away at the airport because they had not realised that they needed VISAs.

The session topics were many and varied ranging from the ubiquitous fish , plankton and benthic ecology sessions to modelling, bio indicators, eco toxicology, biomanipulation, water quality, restoration techniques, floodplain processes, microbial gas production and paleolimnology. Each day there was a poster session with posters presented on most of the topics receiving oral contributions. There were 12 workshops

that took the format of several short talks followed by discussion. Stu really enjoyed the workshop on South American wetlands and of course Kerri was blown away by all the talks on gas production.

There was a strong emphasis on limnology in developing and tropical countries including excellent local posters and papers from Brasilian researchers and students. Their numbers were particularly strong as the V Brasilian Limnological Congress was held concurrently although many Brasilian students could not afford the exorbitant SIL fees and demonstrated outside.

Out of the nearly 1000 delegates we spoke to about 30 people had been mugged during the week including a group of 6 strapping Swedes who were done over by 30 kids between the bus stop and the congress centre. Generally we felt safer than we expected - it must have been because we had George with us.

The AGM enlightened us with details of expenditure - so detailed and small that everyone not in the front row actually laughed when it was put on the screen. Then big Bill who had struggled through the onerous task of editing this congress proceedings with a cold accepted his new position as editor for SIL. To top off the week we were stood up by the Environment Minister who was supposed to close the ceremony but everyone ate and danced the night away at the congress dinner, which was a real hoot.

For more entertaining tales of South America refer to 'Postcards from the Sedge'

CONFERENCE CAPERS

AUSTRALIA 1995

- **Nutrient Determination in Freshwaters**, 29 November to 1 December 1995, The Convention Centre, Charles Sturt University, Wagga Wagga, NSW. The conference is being conducted by the Environmental and Analytical Laboratories at Charles Sturt University in conjunction with the Murrumbidgee Water Action Plan. The conference is aimed at persons involved in the measurement and interpretation of data on nutrients in freshwaters. Submission of Abstracts deadline is 14 June 1995 and Registration deadline 30 October. For more information contact Kirsty Blair Phone 069-33 2849, Fax 069-33 2477, Email shelliwell@csu.edu.au.

- **Symposium on Spatial and Temporal Scaling of Ecological Processes in Freshwater Systems.** From 6 December - 8 December 1995. The Symposium is sponsored by the CRC for Freshwater Ecology and will be held at the CRC for Freshwater Ecology, Monash University. All enquiries to Dr Gerry Quinn, Dept. Ecology & Evolutionary Biology, Monash University. Phone: 03-9055633 Email: Gerry.Quinn@sci.monash.edu.au *(see section in Announcements).*

- **MODSIM 95, Congress of the Modelling and Simulation Society of Australia,** 27-30th November, University of Newcastle NSW. Information from the Internattional Congress Sectretariat: Dr Philip Binning, Dept. of Civil Engineering and Surveying, University of Newcastle, NSW 2308, Australia. email: modsim95@newcastle.edu.au

- **Ecology Society of Australia**, 27 - 29 September, 1995, University of Tasmania, Hobart, Tas. There will be both Symposia and Open Forum sessions over three days. Deadlines for Abstracts is 30 June 1995. General registration and Abstract forms from Kerrie Green, Dept. Geography and Environmental Studies, University of Tasmania, GPO Box 252C, Hobart. Tas 7001. Ph 002-202840. Fax: 002-202989.

- **The Literature of Australian Natural History**, 8 December 1995, University College, Australian Defence Force Academy. This is a seminar about the writers and writing on the animals and plants of Australia. Enquiries to Nick Drayson, English Department, University College, Australian Defence Force Academy, Canberra ACT 2600. Phone: 06-268 8433, Fax: 06-268 8899, Email: nick-drayson@adfa.oz.au.

OVERSEAS 1995

- **Entomological Society of America** (systematics, morphology, evolution), 17-21 December 1995, Las Vegas, USA. Information from Richard Brown, email: moth@ra.msstate.edu.

- **6th International Conference on the Conservation and Management of Lakes**, 23 to 27 October 1995, Kasumigaura, Japan. Early registration closes 30 June 1995. Information from the Secretariat of the 6th International Conference on the Conservation and Management of Lakes, 1-5-38, Sannomaru, Mito, Ibaraki 310 Japan. Phone: +81-292-24-6905 or Fax: +81-292-33-2351.

- **The Conservation and Management of Freshwater Mussels II: Initiatives for the Future**, 16 to 18 October 1995, Embassy Suites Hotel, St Louis, Missouri USA. Information from Kurte Welke, Wisconsin Department of Natural Resources, 111 West Dunn Street, Prairie du Chien, WI 53821 USA. Phone: (608) 326-0233.

- **Aquatic Ecosystems Stewardship**, North American Lake Management Society 15th International Symposium, 6 to 11 November 1995. Information from Dr Neil Hutchinson, Ontario Ministry of Environment and Energy, Dorset Research Centre, PO Box 39, Bellwood Acres Road, Dorset, Ontario Canada P0A 1E0. Fax: (705) 766-2254.

- **Conservation and Fresh Water: Linking Science with Policy**, The British Council Seminars in Scotland, 7 to 14 September 1995, Stirling Scotland. Further information from the International Seminars Department, The British Council, 10 Spring Gardens, London SW1A 2BN, UK. Phone: +44 (0) 171 3894264, Fax: +44 (0) 171 389 4154.

AUSTRALIA 1996

- **Australian Society for Limnology**, 29 September to 2 October 1996, Adelaide, South Australia. Further information available in the March 1996 issue of this Newsletter.

- **Sixth International Behavioural Ecology Congress**, Canberra. 29 September to 4 October 1996. Information: isbe6@anu.edu.au, or to ISBE6, Attention Andrew Cockburn, Division of Botany and Zoology, Australian National University, Canberrra ACT 0200 Australia.

- **Ramsar Convention** to be held in Brisbane from 19-27 March 1996. The conference will celebrate the 25th anniversary of the meeting in the Iranian town of

Ramsar where the conference text was agreed. See the article by Max Finlayson in the "Articles" section of this newsletter. Further information on the Convention is Bill Phillips from ANCA in Canberra - Fax 06-2500384, phone 06-2500777.)

- **The Scientific Savant in Nineteenth Century Australia: a Celebration of the Life, Times and Legacy of Ferdinand von Mueller**, 22-24 September 1996. Part of the Commemorative Conference Royal Botanic Gardens, Melbourne. This conference will include sessions on Australia/overseas scientific links; Intercolonial relations in science; The scientific botanic garden; Scientific explorations in Australia; Darwinism in Australia; Philosophies in Australia; Amateurs and professionals in Australian Science and Government Science; Scientific education. For more information contact Dr Tim Entwisle Phone 03-655 2300, Fax 03-655 2350, Email entwisle@botany.unimelb.edu.au.

- **Beyond the Floras**, 26-28 September 1996. Part of the Commemorative Conference Royal Botanic Gardens, Melbourne. This conference will include sessions on The future of taxonomy; Techniques and developments of importance to systematic botany; Applications of taxonomic information. For more information contact Dr Tim Entwisle Phone 03-655 2300, Fax 03-655 2350, Email entwisle@botany.unimelb.edu.au.

- **Ecological Society of Australia** (tentative) 9-12 July, 1996, Townsville, Queensland. Information from Ross Alford, Dept. of Zoology, James Cook University, Townsville, Qld 4811. Fax: 077-251570, Email: ross.alford@jcu.edu.au.

- **Second World Fisheries Congress**, 28 July to 2 August, Brisbane, Queensland. Information from Congress Secretariat, PO Box 1280, Milton Qld 4046. Fax: 07-3691512.

- **INTECOL V International Wetlands Conference**, 22-28 September 1996, Perth, Western Australia. Information from Dr Jenny Davis, Fax: 09-3104997 Email: davis@essun1.murdoch.edu.au.

- **7th International Conference on Small Freeliving Amoebae**, 7 - 12 January 1996, Adelaide Women's and Children's Hospital, Adelaide, South Australia. Contact: Mr Bret Robinson (Convenor) FAX 61-8-2590228 (Also separate Announcement in this Newsletter)

OVERSEAS 1996

- **Victoria Falls Conference on Aquatic Systems**, 15-19 July 1996, Elephant Hills Hotel, Victoria Falls, Zimbabwe. The conference is jointly organised by the Southern African Society of Aquatic Scientists, the River Basin Management Technical Division of the Water Institute of Southern Africa and the Water Engineering Division of the South African Institution for Civil Engineers. The conference will focus attention on the monitoring and management of our water resources, aiming to provide a multidisciplinary overview of aquatic ecosystems and resource management. Abstracts should be submitted by 30 June 1995. Enquiries and registration forms from Ms Lesley Stephenson, Conference Secretary, Ph: +27-011-716-5091, Fax: +27-011-339-7835, Email: stephenson@egoli.min.wits.ac.za.

- **WISA 96** (Water Institute of South Africa), 13 to 20 May 1996, Feather Market Centre, Port Elizabeth, South Africa. Information from: Conference Planners, PO Box 82, Irene, 1975 South Africa. Phone: Pretoria (012) 63-1681 or Fax (012) 63-1680.

- **Sálim Ali Centenary Seminar on Conservation of Avifauna of Wetlands and Grasslands** (Bombay Natural History Society), 12 to 15 February 1996, Indira Gandhi Institute for Development Research, Bombay, India. Information from: The Organizing Secretary, Sálim Ali Centenary Seminar, Bombay Natural History Society, Hornbill House, Dr. Sálim Ali Chowk, Shaheed Bhagat Singh Road, Bombay 400 023, India. Phone: +91-22-284 3421 (284 3829, 282 1817, 282 1811, 282 6844, 282 6856). Fax: +91-22-283 7615.

- **Ecological Summer Summit '96**, 19 to 23 August 1996, Copenhagen, Denmark. The Summit incorporates the 10th International Conference on Ecological Modelling, the Intternational Conference on Ecological Engineering, the 2nd International Symposium on Ecosystem Healtth and the European Meeting on Ecological Economics. Further information from: Gill Spear, ECO-Summit '96 Secretariat, Elsevier Science Ltd., Conference Department, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK. Phone: +44 1865 843643. Fax: +44 1865 843958. Email: g.spear@elsevier.co.uk. Web-server INFO accessible at: htttp://info.dfh.dk/ECOSUM96

EIGHTH TAXONOMIC WORKSHOP

20 - 21 FEBRUARY 1996

MOLLUSCA & EPHEMEROPTERA

GUEST SPEAKERS:

Dr Brian Smith (Queen Victoria Museum)

Mr John Dean (EPA, Victoria)

TUESDAY 20th FEBRUARY 1996

9.00am	"Welcome" Dr Terry Hillman, Director MDFRC
Speaker: Brian Smith	
9.15am	"Introduction to the biology and ecology of aquatic Mollusca"
10.45am	Morning Tea
11.00am	"Classification of freshwater Mollusca"
1.00pm	Lunch
2.00pm	"Keys to the gastropod and bivalve families"
3.30pm	Afternoon Tea
3.45pm	"Keys to the genera of gastropods and bivalves"
5.15pm	Finish
7.30pm	Dinner, Thai Lotus Restaurant, 610 Dean St, Albury

WEDNESDAY 21ST FEBRUARY 1996

Speaker: John Dean	
9.00am	"Identification of the Australian Ephemeroptera"
10.45am	Morning Tea
11.00am	"Key to the genera/species of the family Leptophlebiidae"
12 noon	Lunch
1.30pm	"Keys to genera of selected families of Ephemeroptera"
3.30pm	Afternoon Tea
3.45pm	"Identification of mayfly specimens"
5.00pm	Finish

VENUE AND DATE

The workshop will be held in the Murray-Darling Freshwater Research Centre's (MDFRC) Seminar Room, Ellis Street, Thurgoona, via Albury NSW and will be conducted from the 20th - 21st February 1996. The MDFRC is now part of the Cooperative Research Centre for Freshwater Ecology.

COSTS

A registration fee will be charged to offset the cost of reproducing the taxonomic keys, travel and accommodation for the guest speakers, morning and afternoon teas.

Registration Fees: Participants $90.00, Full Time Students $50.00. Proceedings of the Workshop will be available for non-attendants.

REGISTRATION

Registration is essential for the successful organisation of the Workshop and it would be appreciated if participants could notify the conference organiser of their intention to attend by **Friday 15 December 1995.** The registration fee must be also paid by the 15 December. Please make cheques payable to The Murray-Darling Freshwater Research Centre.

ACCOMMODATION

Accommodation is the responsibility of the participant. Listed below are motel, hotel and caravan park accommodation near the Centre. All prices listed are per night.

Thurgoona Country Club Motel, Evesham Place, Thurgoona. Phone 060-43 1666.

Single and Twin Share, both $70. Within walking distance of the MDFRC laboratory.

Sodens Hotel-Motel, Cnr. Wilson and David Streets, Albury. Phone 060-212 400.

Motel: Single $30 and Twin Share $40. Hotel: Single $20 and Twin Share $30. A light breakfast is included in both the Motel and Hotel prices. Soden's is approximately 8km from the MDFRC laboratory.

Siesta Motel, 416 Wagga Road, Lavington. Phone 060-25 4555.

Single and Twin Share, both $77. The Siesta is 5km from the MDFRC laboratory.

Trek 31 Tourist Park, Hume Highway, Lavington. Phone 060-25 4355.

Cabin with ensuite, Twin Share $40. Van with ensuite, Twin Share $33. Van without ensuite, Twin Share $28. Additional people can share the accommodation, $5 per additional person and $2 per additional child. Trek 31 is 4km from the MDFRC laboratory.

CONFERENCE ENQUIRIES

Mr John Hawking, The Murray-Darling Freshwater Research Centre PO Box 921, ALBURY 2640.

Phone: 060-43 1002 or Fax: 060-431 626

ASL VOLUNTEERS

The following people have volunteered to speak as experts on behalf of the ASL. If you wish to be included on the list contact:

Dr Richard Marchant (ASL Secretary)
Phone: 61-3 284 0218
Fax: 61-3 416 0475
Email: rmarch@pioneer.mov.vic.gov.au

Name	Area of Expertise	Phone
Prof. A.Arthington	in-stream flows, ecology of exotic fishes,conservation of rare fishes	
Dr P.Boon	bacteriological issues, wetlands	03-3652214
Dr A.Boulton	intermittent streams, hyporheic zones, Flinders Ranges streams	067-733760
Dr M.Brock	temporary wetlands, aquatic plants	067-732578
Dr S.Bunn	stream ecology, ecology of riparian zones, biomonitoring	07-8757407
Dr G.Closs	ecology and conservation of freshwater fish, upper Murray River	
Dr Tim Entwisle	taxonomy and ecology of freshwater macroalgae	03-6552313
Dr M.Finlayson	wetlands, Ramsar convention	
Dr T.Grant	platypus biology	
K.Hortle	impact of mining, impact of development in SE Asia and PNG on rivers	03-8742597
Dr P.Horwitz	conservation of freshwater invertebrates	09-4055558
Dr P.Humphries	fish ecology, in-stream flows	060-431002
Dr J.John	blue-green algal blooms in WA, artificial wetlands	
Dr P.S.Lake	stream ecology, conservation of freshwater biota	03-9055653.
Prof. J.Laybourn-Parry	plankton microbial ecology, carbon cycling in lakes, Antarctic freshwater systems	03-4792278
Dr R.Pearson	tropical freshwater ecology	077-814262
J.Puckridge	ecology of arid zone rivers, ecology of freshwater fish	08-3034455
Dr N.Rea	hydrology of wetlands, aquatic plants, constructed wetlands	02-5514425
Dr L.Townley	groundwater - surface water interactions	09-3870329
A/Prof K.F.Walker	Murray - Darling basin rivers	08-3035595
Prof. W.D.Williams	salt lakes	08-3034455

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